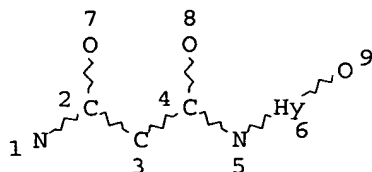


=> d que stat 169  
L65 STR



NODE ATTRIBUTES:

CONNECT IS E1 RC AT 7  
CONNECT IS E1 RC AT 8  
CONNECT IS E1 RC AT 9  
DEFAULT MLEVEL IS ATOM  
MLEVEL IS ANY AT 6  
GGCAT IS PCY HIC AT 6  
DEFAULT ECLEVEL IS LIMITED  
ECOUNT IS M1 N E0 O E0 P E0 S AT 6

GRAPH ATTRIBUTES:

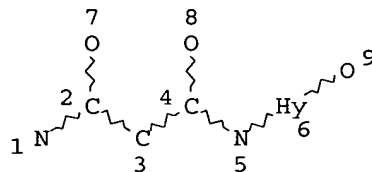
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 9

STEREO ATTRIBUTES: NONE

L69 169 SEA FILE=MARPAT SSS FUL L65

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SEARCH TIME: 00.00.23

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L65 STR



NODE ATTRIBUTES:

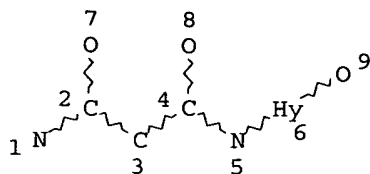
CONNECT IS E1 RC AT 7  
CONNECT IS E1 RC AT 8  
CONNECT IS E1 RC AT 9  
DEFAULT MLEVEL IS ATOM  
MLEVEL IS ANY AT 6  
GGCAT IS PCY HIC AT 6  
DEFAULT ECLEVEL IS LIMITED  
ECOUNT IS M1 N E0 O E0 P E0 S AT 6

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 9

STEREO ATTRIBUTES: NONE

L67 STR



## NODE ATTRIBUTES:

CONNECT IS E1 RC AT 7  
 CONNECT IS E1 RC AT 8  
 CONNECT IS E1 RC AT 9  
 DEFAULT MLEVEL IS ATOM  
 MLEVEL IS ANY AT 6  
 GGCAT IS PCY HIC AT 6  
 DEFAULT ECLEVEL IS LIMITED  
 ECOUNT IS M9 C M1 N E0 O E0 P E0 S AT 6

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 9

## STEREO ATTRIBUTES: NONE

L69 169 SEA FILE=MARPAT SSS FUL L65  
 L71 137 SEA FILE=MARPAT SUB=L69 SSS FUL L67

100.0% PROCESSED 169 ITERATIONS ( 1 INCOMPLETE) 137 ANSWERS  
 SEARCH TIME: 00.00.03

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L71 ANSWER 1 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 144:350982 MARPAT  
 TITLE: Preparation of pseudopeptides which inhibit  
 β-secretase activity  
 INVENTOR(S): Ghosh, Arun; Lei, Hui; Devasamudram, Thippeswamy; Lui,  
 Chunfeng; Tang, Jordan; Bilcer, Geoffrey  
 PATENT ASSIGNEE(S): Zapaq, Inc., USA; The Board of Trustees of the  
 University of Illinois; Oklahoma Medical Research  
 Foundation  
 SOURCE: PCT Int. Appl., 90 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006034296	A2	20060330	WO 2005-US33709	20050919

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

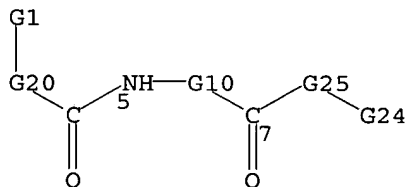
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PRIORITY APPLN. INFO.:

US 2004-611029P 20040917

AB The invention provides compds. R2-L2-NH(CR7AR7B)nCH(L3-R3)CONHCH(L1-R1)CH(OH)CH2CH(L4-R4)CONR6-L5-R5 [n is 0-5; R1, R3, R4, R5 are independently amino groups, OH, alkoxy, acyl, N3, H, alkyl, aryl, amino acid side chain, etc.; R2, R6, R7A, R7B are independently H, (un)substituted alkyl, heteroalkyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl or -L6-Y, where L6 is a bond, OP(OH)2O, carboxylic ester, etc. and Y is a carrier moiety; for n = 1, R7A may combine with R2 to form a ring; L1, L4 are independently a bond, (un)substituted alkylene or heteroalkylene; L2, L3 are independently a bond, CO, NH, CO2, S, etc.; L5 is a bond, CO, CONH, (un)substituted alkylene or heteroalkylene] which are  $\beta$ -secretase inhibitors for use in treating Alzheimer's disease. The synthesis of exemplary isostere inhibitor I (Boc = tert-butoxycarbonyl) is described. A table shows Ki values for inhibition of memapsin 2  $\beta$ -secretase and cathepsin D activities by compds. of the invention.

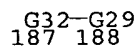
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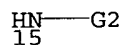
G1 = NH2 / 11 / 13

HN—G33      G3—G4  
11            13

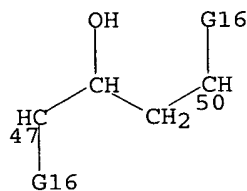
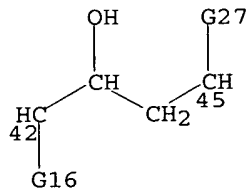
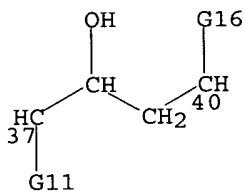
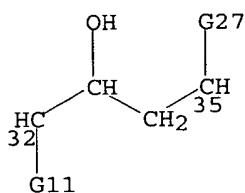
G2 = carbon chain <0 or more double bonds, 0 or more triple bonds> (opt. substd.) / R <"heteroalkyl or carrier moiety optionally bonded via bridging group"> / carbocycle <0 or more double bonds> (opt. substd.) / heterocycle <containing zero or more N, zero or more O, zero or more P, zero or more S, zero or more Si, 0 or more double bonds> (opt. substd.) / aryl (opt. substd.) / heteroaryl <containing 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms)> (opt. substd.) / 17 / OH / 19 / 21 / 24 / NH2 (opt. substd.) / CO2H / 26 / SH / 29 / (Specifically claimed: 187)



G3 = (1-2) CH<sub>2</sub> (opt. substd.)  
 G4 = NH<sub>2</sub> / 15



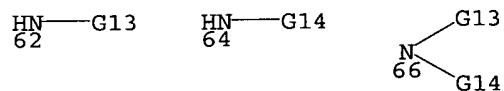
G5 = H / R  
 G6 = (1-5) CH<sub>2</sub>  
 G7 = NH<sub>2</sub> (opt. substd.)  
 G8 = S / S(O)  
 G9 = O / S / S(O) / SO<sub>2</sub>  
 G10 = 32-5 35-7 / 37-5 40-7 / 42-5 45-7 / 47-5 50-7



G11 = carbon chain <0 or more double bonds,  
 0 or more triple bonds> (opt. substd.) / 60 /  
 (Specifically claimed: 154)



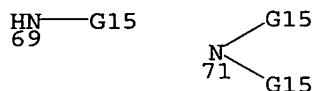
G12 = NH<sub>2</sub> / 62 / 64 / 66



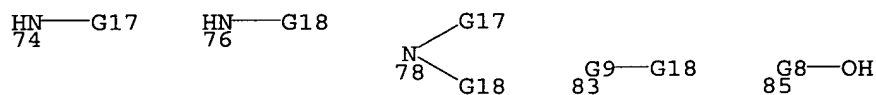
G13 = NH<sub>2</sub> / 69 / 71 / carbon chain <0 or more double  
 bonds, 0 or more triple bonds> (opt. substd.) /



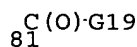
R <"heteroalkyl"> / carbocycle <0 or more double bonds> (opt. substd.) / heterocycle <containing zero or more N, zero or more O, zero or more P, zero or more S, zero or more Si, 0 or more double bonds> (opt. substd.) / aryl (opt. substd.) / heteroaryl <containing 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms)> (opt. substd.)



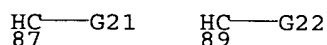
- G14 = carbon chain <0 or more double bonds, 0 or more triple bonds> (opt. substd.) / R <"heteroalkyl"> / carbocycle <0 or more double bonds> (opt. substd.) / heterocycle <containing zero or more N, zero or more O, zero or more P, zero or more S, zero or more Si, 0 or more double bonds> (opt. substd.) / aryl (opt. substd.) / heteroaryl <containing 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms)> (opt. substd.)
- G15 = carbon chain <0 or more double bonds, 0 or more triple bonds> (opt. substd.) / R <"heteroalkyl"> / carbocycle <0 or more double bonds> (opt. substd.) / heterocycle <containing zero or more N, zero or more O, zero or more P, zero or more S, zero or more Si, 0 or more double bonds> (opt. substd.) / aryl (opt. substd.) / heteroaryl <containing 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms)> (opt. substd.)
- G16 = NH2 / 74 / 76 / 78 / OH / 83 / SH / 85 / N3 / R <"heteroalkyl, side chain of amino acid residue, or carrier moiety optionally bonded via bridging group"> / carbocycle <0 or more double bonds> (opt. substd.) / heterocycle <containing zero or more N, zero or more O, zero or more P, zero or more S, zero or more Si, 0 or more double bonds> (opt. substd.) / aryl (opt. substd.) / heteroaryl <containing 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms)> (opt. substd.)



- G17 = 81 / carbon chain <0 or more double bonds, 0 or more triple bonds> (opt. substd.) / R <"heteroalkyl"> / carbocycle <0 or more double bonds> (opt. substd.) / heterocycle <containing zero or more N, zero or more O, zero or more P, zero or more S, zero or more Si, 0 or more double bonds> (opt. substd.) / aryl (opt. substd.) / heteroaryl <containing 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms)> (opt. substd.)



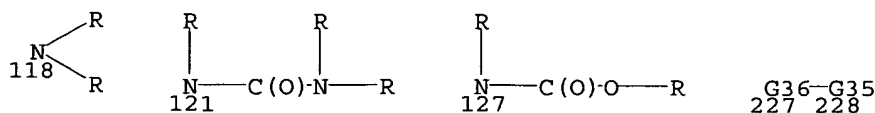
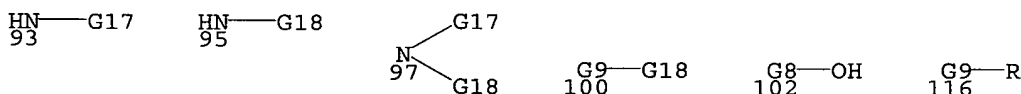
- G18 = carbon chain <0 or more double bonds,  
0 or more triple bonds> (opt. substd.) / R <"heteroalkyl"> /  
carbocycle <0 or more double bonds> (opt. substd.) /  
heterocycle <containing zero or more N, zero or more O,  
zero or more P, zero or more S, zero or more Si,  
0 or more double bonds> (opt. substd.) /  
aryl (opt. substd.) / heteroaryl <containing 1-4  
heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.)
- G19 = H / carbon chain <0 or more double bonds,  
0 or more triple bonds> (opt. substd.) / R <"heteroalkyl"> /  
carbocycle <0 or more double bonds> (opt. substd.) /  
heterocycle <containing zero or more N, zero or more O,  
zero or more P, zero or more S, zero or more Si,  
0 or more double bonds> (opt. substd.) /  
aryl (opt. substd.) / heteroaryl <containing 1-4  
heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.)
- G20 = 87 / 89



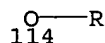
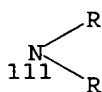
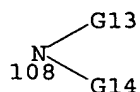
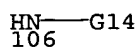
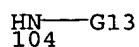
- G21 = carbon chain <0 or more double bonds,  
0 or more triple bonds> (opt. substd.) / 91 /  
(Specifically claimed: 212)



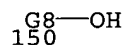
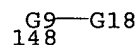
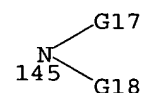
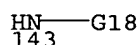
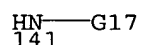
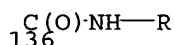
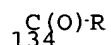
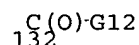
- G22 = NH2 / 93 / 95 / 97 / OH / 100 / SH / 102 / N3 /  
R <"heteroalkyl, side chain of amino acid residue,  
or carrier moiety optionally bonded via bridging group"> /  
carbocycle <0 or more double bonds> (opt. substd.) /  
heterocycle <containing zero or more N, zero or more O,  
zero or more P, zero or more S, zero or more Si,  
0 or more double bonds> (opt. substd.) /  
aryl (opt. substd.) / heteroaryl <containing 1-4  
heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.) / 116 /  
118 / 121 / 127 / (Specifically claimed: 227)



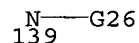
- G23 = NH2 / 104 / 106 / 108 / R / 111 / 114



G24 = NH2 / 141 / 143 / 145 / OH / 148 / SH / 150 / N3 /  
 R <"heteroalkyl, side chain of amino acid residue,  
 or carrier moiety optionally bonded via bridging group"> /  
 carbocycle <0 or more double bonds> (opt. substd.) /  
 heterocycle <containing zero or more N, zero or more O,  
 zero or more P, zero or more S, zero or more Si,  
 0 or more double bonds> (opt. substd.) /  
 aryl (opt. substd.) / **heteroaryl <containing 1-4  
 heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)>**  
 (opt. substd. by G37) / H / carbon chain <0 or more double  
 bonds, 0 or more triple bonds> (opt. substd.) / 132 / 134 /  
 136 / (Specifically claimed: pyridyl (opt. substd. by carbon  
 chain <containing 1-5 C, 0 or more double bonds,  
 0 or more triple bonds>))

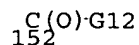


G25 = NH / 139

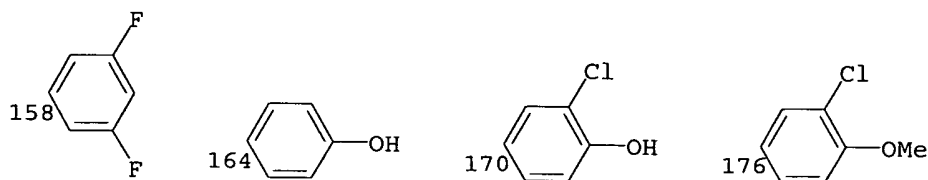


G26 = carbon chain <0 or more double bonds,  
 0 or more triple bonds> (opt. substd. by 1 or more G38) /  
 R <"heteroalkyl or carrier moiety optionally bonded via  
 bridging group"> / carbocycle <0 or more double bonds>  
 (opt. substd.) / heterocycle <containing zero or more N,  
 zero or more O, zero or more P, zero or more S,  
 zero or more Si, 0 or more double bonds> (opt. substd.) /  
 aryl (opt. substd.) / heteroaryl <containing 1-4  
 heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.)

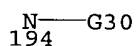
G27 = carbon chain <0 or more double bonds,  
 0 or more triple bonds> (opt. substd.) / 152 /  
 (Specifically claimed: Me / Et)



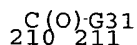
G28 = Ph / pyridyl / 158 / 164 / 170 / 176 / Pr-i



- G29 = carbon chain <containing 1-20 C,  
0 or more double bonds, 0 or more triple bonds>  
(opt. substd.) / R <"heteroalkyl"> / aryl (opt. substd.) /  
heteroaryl <containing 1-4 heteroatoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms)>  
(opt. substd.) / (Specifically claimed: furyl (opt. substd.)  
/ Ph (opt. substd.) / pyridyl (opt. substd.) /  
thiazolyl (opt. substd.))
- G30 = carbon chain <containing 1-20 C,  
0 or more double bonds, 0 or more triple bonds>  
(opt. substd.)
- G31 = O / NH / 194



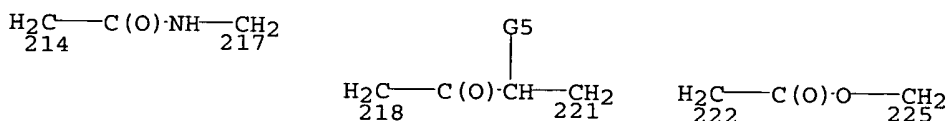
- G32 = C(O) / 210-15 211-188 / SO<sub>2</sub>



- G33 = carbon chain <0 or more double bonds,  
0 or more triple bonds> (opt. substd.) /  
R <"heteroalkyl or carrier moiety optionally bonded via  
bridging group"> / carbocycle <0 or more double bonds>  
(opt. substd.) / heterocycle <containing zero or more N,  
zero or more O, zero or more P, zero or more S,  
zero or more Si, 0 or more double bonds> (opt. substd.) /  
aryl (opt. substd.) / heteroaryl <containing 1-4  
heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.) / 196 /  
OH / 198 / 200 / 203 / NH<sub>2</sub> (opt. substd.) / CO<sub>2</sub>H / 205 / SH /  
208

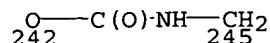
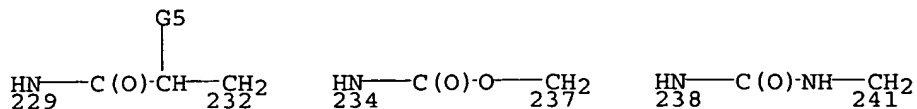


- G34 = 214-87 217-213 / 218-87 221-213 / 222-87 225-213



- G35 = pyrazolyl (opt. substd.) / oxazolyl (opt. substd.) /  
thiazolyl (opt. substd.) / furyl (opt. substd.)
- G36 = 229-89 232-228 / 234-89 237-228 /

238-89 241-228 / 242-89 245-228



G37 = R / (**Specifically claimed:** OH / CO<sub>2</sub>H / F / Cl / Br /  
 I / carbon chain <containing 1-5 C, 0 or more double bonds,  
 0 or more triple bonds>)

G38 = R / (Specifically claimed: F / Cl / Br / I)

Patent location: claim 1

=&gt; d ed ab fh1t 171 2-137

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L71 ANSWER 2 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 144:233087 MARPAT

TITLE: Preparation of fused pyrimidinones as chemokine CXCR3  
 receptor ligands.INVENTOR(S): Lin, Chu-Chung; Chen, Hong-Chuan; Lee, Kuang-Yuan;  
 Huang, Ying-Huey; Fan, Yang-Ping; Xiang, Yibin

PATENT ASSIGNEE(S): Taigen Biotechnology, Taiwan

SOURCE: U.S. Pat. Appl. Publ., 60 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

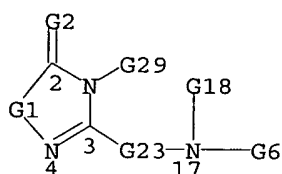
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2006036093	A1	20060216	US 2005-204792	20050816
WO 2006023381	A1	20060302	WO 2005-US28679	20050811
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				

## PRIORITY APPLN. INFO.:

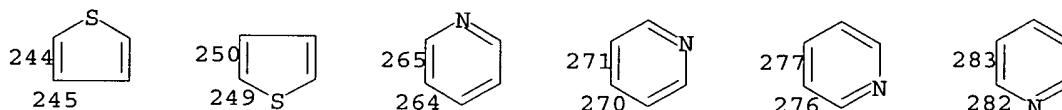
US 2004-601776P 20040816

AB Title compds. [I; A = aryl, heteroaryl; X = S, NRa1; L1 = CRb1Rb2, alkylene, heteroalkylene, null; L2 = CRc1, null; L3, L4 = CO, SO2, CO2, COCH2, SO2CH2, alkylene, heteroalkylene, etc.; L3L4N, L1L3N, L1L4N = atoms to form 5-7 membered ring; R1 = H, alkyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl; R2 = R1, etc.; R2L2 = null; R3, R4 = R1, halo, cyano, amidino, guanidino, ureido, etc.; Ra1, Rb1, Rb2, Rc1 = H, alkyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, cyano, etc.], were prepared. Thus, title compound (II) was prepared in 7 steps from anthranilic acid, propionyl chloride, 4-ethoxyaniline, BocNHCH2CH2NH2, 3,4-dichlorophenylacetic acid, and (Me2S)2C:NCN. 138 I inhibited activation of CXCR3 using a Delfia GTP binding kit with IC50 <1  $\mu$ M.

## MSTR 1



G1 = arylene <attached through 2 or more C>  
 (opt. substd.) / heteroarylene <containing zero or more N,  
 zero or more O, zero or more S, attached through 2 or more C>  
 (opt. substd.) / (Specifically claimed: o-C6H4 /  
 244-2 245-4 / 250-2 249-4 / 265-2 264-4 / 271-2 270-4 /  
 277-2 276-4 / 283-2 282-4 )



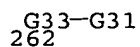
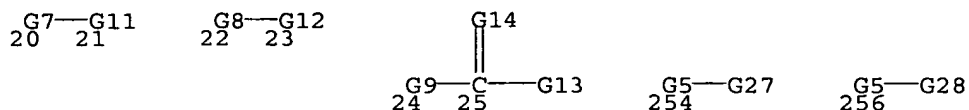
G2 = S / 10



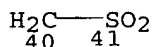
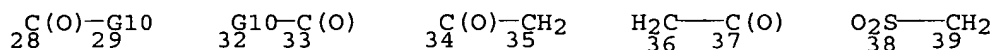
G3 = H / carbon chain <containing 1-10 C>  
 (opt. substd.) / carbocycle <containing 3-20 C, non-aromatic>  
 (opt. substd.) / heterocycle <containing zero or more N,  
 zero or more O, zero or more S, up to 20 C, non-aromatic>  
 (opt. substd.) / aryl (opt. substd.) /  
 heteroaryl <containing zero or more N, zero or more O,  
 zero or more S> (opt. substd.) / CN / 12 / 14



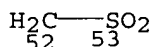
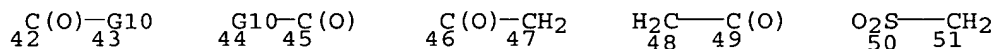
G4 = carbon chain <containing 1-10 C> (opt. substd.) / H  
 G5 = (1-3) CH2  
 G6 = 20 / 22 / 24 / (Specifically claimed: 254 / 256 /  
 262 / Ph (substd. by OMe))



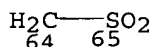
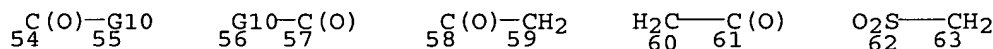
G7 = C(O) / SO2 / 28-17 29-21 / 32-17 33-21 /  
 34-17 35-21 / 36-17 37-21 / 38-17 39-21 / 40-17 41-21 /  
 carbon chain <containing 1-10 C> (opt. substd.) /  
 R <"C1-C10 heteroalkylene", containing zero or more N,  
 zero or more O, zero or more S>



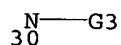
G8 = C(O) / SO2 / 42-17 43-23 / 44-17 45-23 /  
 46-17 47-23 / 48-17 49-23 / 50-17 51-23 / 52-17 53-23 /  
 carbon chain <containing 1-10 C> (opt. substd.) /  
 R <"C1-C10 heteroalkylene", containing zero or more N,  
 zero or more O, zero or more S>



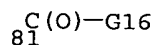
G9 = C(O) / SO2 / 54-17 55-25 / 56-17 57-25 /  
 58-17 59-25 / 60-17 61-25 / 62-17 63-25 / 64-17 65-25 /  
 carbon chain <containing 1-10 C> (opt. substd.) /  
 R <"C1-C10 heteroalkylene", containing zero or more N,  
 zero or more O, zero or more S>



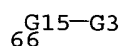
G10 = O / 30



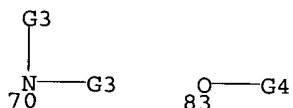
G11 = carbon chain <containing 1-10 C> (opt. substd.) /  
CN / 81



G12 = carbocycle <containing 3-20 C, non-aromatic>  
(opt. substd.) / heterocycle <containing zero or more N,  
zero or more O, zero or more S, up to 20 C, non-aromatic>  
(opt. substd.) / aryl (opt. substd.) /  
heteroaryl <containing zero or more N, zero or more O,  
zero or more S> (opt. substd.) / F / Cl / Br / I /  
NHC(NH)NH2 / NHCONH2 / 66

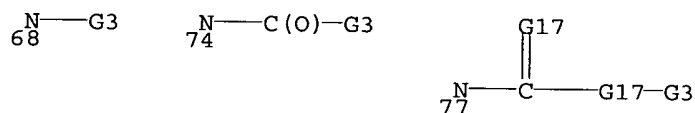


G13 = 70 / H / carbocycle <containing 3-20 C,  
non-aromatic> (opt. substd.) / heterocycle <containing zero  
or more N, zero or more O, zero or more S, up to 20 C,  
non-aromatic> (opt. substd.) / aryl (opt. substd.) /  
heteroaryl <containing zero or more N, zero or more O,  
zero or more S> (opt. substd.) / 83

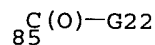


G14 = NH / O

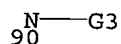
G15 = O / 68 / 74 / 77



G16 = carbon chain <containing 1-10 C> (opt. substd.) /  
CN / 85

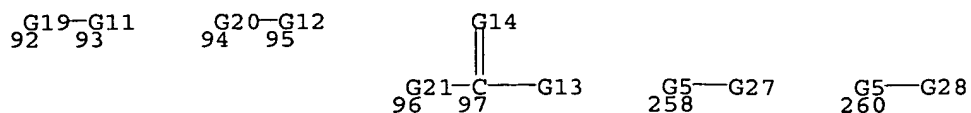


G17 = O / S / 90

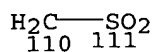
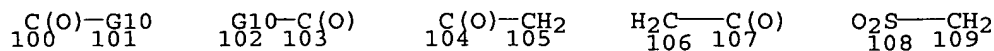


G18 = 92 / 94 / 96 / (Specifically claimed: 258 / 260)

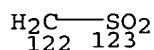
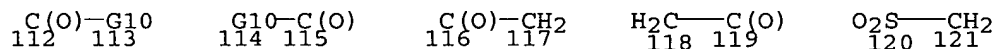




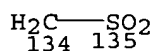
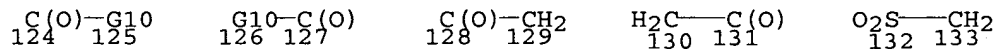
G19 = C(O) / SO2 / 100-17 101-93 / 102-17 103-93 /  
 104-17 105-93 / 106-17 107-93 / 108-17 109-93 /  
 110-17 111-93 / carbon chain <containing 1-10 C>  
 (opt. substd.) / R <"C1-C10 heteroalkylene",  
 containing zero or more N, zero or more O, zero or more S>



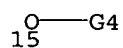
G20 = C(O) / SO2 / 112-17 113-95 / 114-17 115-95 /  
 116-17 117-95 / 118-17 119-95 / 120-17 121-95 /  
 122-17 123-95 / carbon chain <containing 1-10 C>  
 (opt. substd.) / R <"C1-C10 heteroalkylene",  
 containing zero or more N, zero or more O, zero or more S>



G21 = C(O) / SO2 / 124-17 125-97 / 126-17 127-97 /  
 128-17 129-97 / 130-17 131-97 / 132-17 133-97 /  
 134-17 135-97 / carbon chain <containing 1-10 C>  
 (opt. substd.) / R <"C1-C10 heteroalkylene",  
 containing zero or more N, zero or more O, zero or more S>

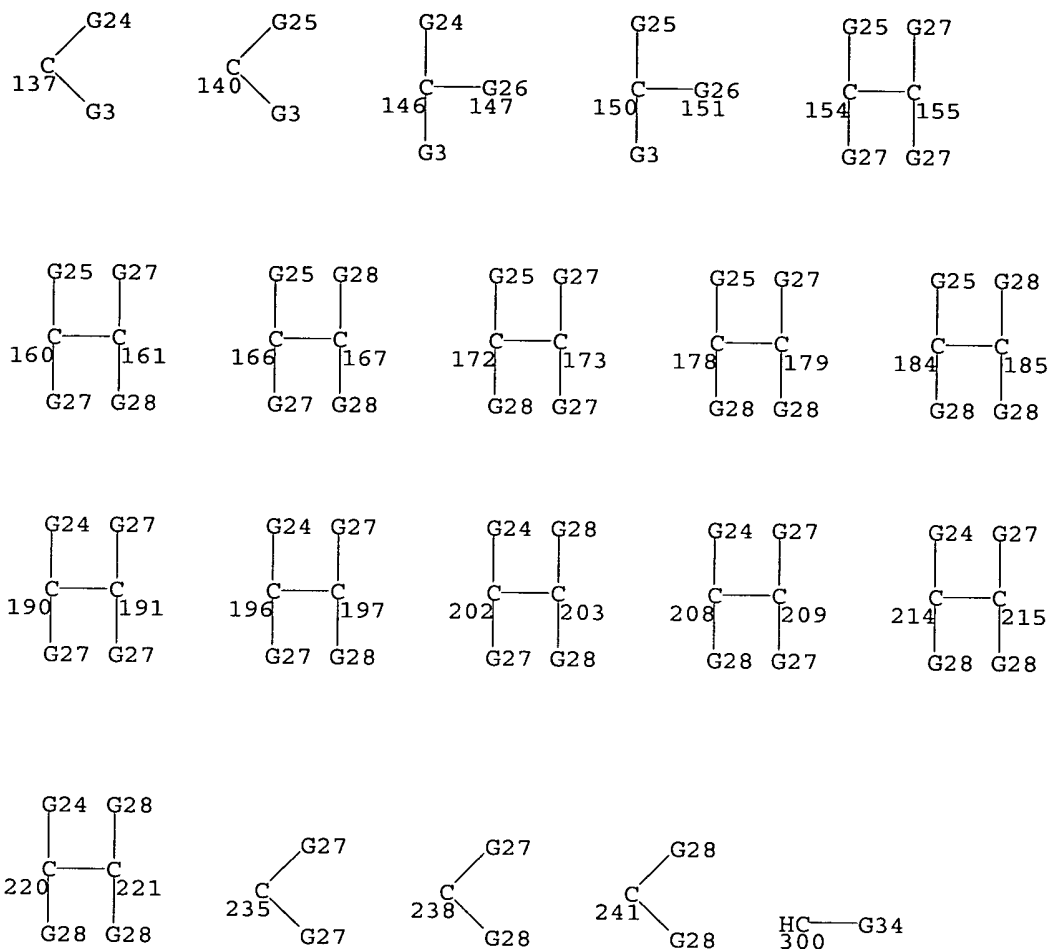


G22 = 15 / NH2

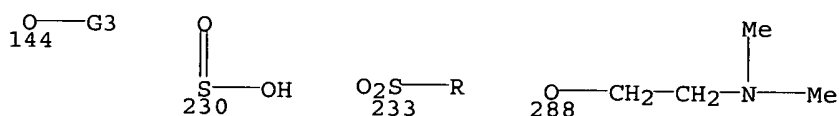


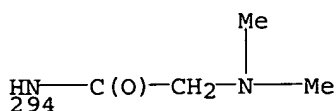
G23 = 137 / 140 / 146-3 147-17 / 150-3 151-17 /  
 154-3 155-17 / 160-3 161-17 / 166-3 167-17 /

172-3 173-17 / 178-3 179-17 / 184-3 185-17 /  
 190-3 191-17 / 196-3 197-17 / 202-3 203-17 /  
 208-3 209-17 / 214-3 215-17 / 220-3 221-17 /  
 carbon chain <containing 1-10 C> (opt. substd.) /  
 R <"C2-C10 heteroalkylene", containing zero or more N,  
 zero or more O, zero or more S> / 235 / 238 / 241 / **bond** /  
 (Example: 300)

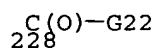


G24 = H / carbocycle <containing 3-20 C, non-aromatic>  
 (opt. substd.) / heterocycle <containing zero or more N,  
 zero or more O, zero or more S, up to 20 C, non-aromatic>  
 (opt. substd.) / aryl (opt. substd.) /  
 heteroaryl <containing zero or more N, zero or more O,  
 zero or more S> (opt. substd.) / 144 /  
 (Specifically claimed: NH2 (opt. substd.) / 230 / 233 /  
 R <"C1-C10 heteroalkyl", containing zero or more N,  
 zero or more O, zero or more S> (opt. substd.) / 288 / 294)

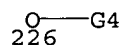




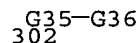
- G25 = carbon chain <containing 1-10 C> (opt. substd.) /  
(Specifically claimed: CHO (opt. substd.))
- G26 = carbon chain <containing 1-10 C> (opt. substd.) /  
R <"C2-C10 heteroalkylene", containing zero or more N,  
zero or more O, zero or more S>
- G27 = carbon chain <containing 1-10 C> (opt. substd.) /  
CN / 228



- G28 = H / carbocycle <containing 3-20 C, non-aromatic>  
(opt. substd.) / heterocycle <containing zero or more N,  
zero or more O, zero or more S, up to 20 C, non-aromatic>  
(opt. substd.) / aryl (opt. substd.) /  
heteroaryl <containing zero or more N, zero or more O,  
zero or more S> (opt. substd.) / 226



- G29 = H / carbon chain <containing 1-10 C>  
(opt. substd.) / carbocycle <containing 3-20 C, non-aromatic>  
(opt. substd.) / heterocycle <containing zero or more N,  
zero or more O, zero or more S, up to 20 C, non-aromatic>  
(opt. substd.) / aryl (opt. substd.) /  
heteroaryl <containing zero or more N, zero or more O,  
zero or more S> (opt. substd.) /  
(Specifically claimed: Ph (substd. by 1 or more G30))
- G30 = F / OMe / OEt
- G31 = Ph (substd. by 1 or more G32)
- G32 = F / Cl / CF<sub>3</sub> / Ph
- G33 = CH<sub>2</sub> / carbon chain <containing 1-10 C>
- G34 = Me / 302



- G35 = (2-4) CH<sub>2</sub>
- G36 = NH<sub>2</sub> (opt. substd.)
- Patent location: claim 1
- Note: substitution is restricted
- Note: additional ring formation also claimed

L71 ANSWER 3 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 144:226306 MARPAT

TITLE: Adipogenesis-modulating inosine-5' monophosphate  
dehydrogenase (IMPDH) modulators, and therapeutic use

INVENTOR(S): Whitehead, Jonathan Paul

PATENT ASSIGNEE(S): The University of Queensland, Australia  
 SOURCE: PCT Int. Appl., 262 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006017896	A1	20060223	WO 2005-AU1235	20050816
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM US 2006106097 A1 20060518 US 2005-205279 20050816 US 2004-601797P 20040816				

## PRIORITY APPLN. INFO.:

AB The invention discloses methods and agents for modulating adipogenesis. More particularly, the invention discloses mols. that modulate the level or functional activity of inosine-5' monophosphate dehydrogenase (IMPDH), and their use in modulating the accumulation of lipids in adipocytes and/or the differentiation of preadipocytes to adipocytes for treating or preventing adiposity-related conditions including, but not limited to, obesity, lipoma, lipomatosis, cachexia or lipodystrophy or the loss of adipose tissue in trauma or atrophic conditions.

## MSTR 13

G1—G2—G3  
 1 3

G1 = any ring <containing 0-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), mono- or bicyclic> /  
 4

G4=O  
 4

G2 = 6-1 8-3 / 13-1 15-3 / 20-1 22-3

G6—NH—G8 G6—G7—G9 G6—G10—G11  
 6 7 8 13 14 15 20 22

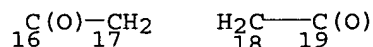
G3 = OH / NH2 / carbon chain <containing 1-8 C,  
 0 or more double bonds, no triple bonds>  
 (opt. substd. by G5) / any ring <containing zero or more N,  
 zero or more O, zero or more S> / 23 / 28



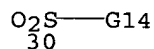
- G4 = any ring <containing 0-4 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), mono- or bicyclic>  
G5 = any ring <containing zero or more N,  
zero or more O, zero or more S>  
G6 = NH / C(O)  
G7 = C(O) / CH2  
G8 = bond / C(O) / CH2 / CH2CH2 / 9-7 10-3 /  
11-7 12-3 / CH=CH



- G9 = bond / C(O) / CH2 / CH2CH2 / 16-14 17-3 /  
18-14 19-3 / CH=CH



- G10 = NH / CH2 / C(O)  
G11 = any ring <containing 3-7 atoms, 2 or more C,  
attached through 2 C, 1 or more double bonds>  
G12 = alkyl <containing 1-8 C> /  
alkenyl <containing 2-6 C> / cycloalkyl <containing 3-10 C> /  
aryl <containing up to 12 atoms, mono- or bicyclic> /  
heterocycle <containing zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> /  
alkyl <containing 1-4 C> (opt. substd. by G14) /  
CH3 (substd.)  
G13 = alkyl <containing 1-8 C> /  
alkenyl <containing 2-6 C> / alkylcarbonyl <containing 1-6 C> /  
/ alkylsulfonyl <containing 1-6 C> /  
alkoxycarbonyl <containing 1-6 C> /  
cycloalkylcarbonyl <containing 3-7 C> /  
alkylcarbonyl <containing 1-5 C>  
(substd. by cycloalkyl <containing 3-7 C>) /  
alkoxycarbonyl <containing 1-5 C> (opt. substd. by G14) /  
cycloalkyloxycarbonyl <containing 3-7 C> /  
cycloalkyl <containing 3-10 C> /  
aryl <containing up to 12 atoms, mono- or bicyclic> /  
heterocycle <containing zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> /  
alkyl <containing 1-4 C> (opt. substd. by G14) / 30



- G14 = cycloalkyl <containing 3-10 C> /  
aryl <containing up to 12 atoms, mono- or bicyclic> /  
heterocycle <containing zero or more N, zero or more O,  
zero or more S (no other heteroatoms)>  
G15 = NH / 29

N—G13  
29

Patent location: claim 54  
Note: substitution is restricted  
Note: additional substitution also claimed

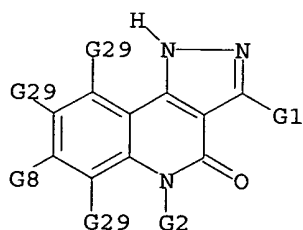
REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 4 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 144:212771 MARPAT  
TITLE: Preparation of novel pyrazoloquinolones and their use for medical compositions  
INVENTOR(S): Ohashi, Kiyokazu; Manabe, Tadashi; Muikaihira, Takafumi; Yumiya, Yasunobu; Nakao, Naoki  
PATENT ASSIGNEE(S): Mochida Pharmaceutical Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 75 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006045118	A2	20060216	JP 2004-228470	20040804
PRIORITY APPLN. INFO.:			JP 2004-228470	20040804

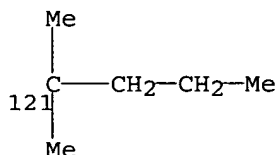
AB Title compds. I [R1 = linear or branched C1-6 aliphatic hydrocarbyl, (1-4 N-, O-, and/or S-containing) C3-6 alicyclic, (1-4 N-, O-, and/or S-containing) C6-12 (hetero)aryl; R2 = H, (un)substituted linear or branched C1-6 aliphatic hydrocarbyl; R3 = halo, CO<sub>2</sub>H, cyano, (un)substituted C1-6 aliphatic hydrocarbyl, (un)substituted amino, (un)substituted amido, etc. ; m = 0-3; when R1 = Me or Ph, then m ≠ 0; when m = 1 and R3 = Cl, then R1 ≠ Me], their salts, or their solvate are prepared The compds. are useful as selective adenosine A2b receptor antagonists and for treatment of asthma, etc. Thus, Et 4,4-dimethyl-3-oxovalerate was refluxed with (EtO)<sub>2</sub>Mg in THF for 2 h, refluxed with 2,4-dinitrobenzoyl chloride, cyclized with NH<sub>2</sub>NH<sub>2</sub>.H<sub>2</sub>O, and hydrogenated over Pd/C to give I (R1 = CMe<sub>3</sub>, R2 = H, R3 = 7-NH<sub>2</sub>, m = 1), which inhibited binding of NECA to adenosine A2b receptor in HEK293 cells with IC<sub>50</sub> value of 80 nM.

## MSTR 1

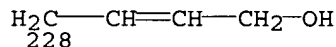
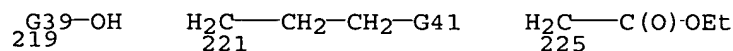


G1 = carbon chain <containing 1-6 C> /  
carbocycle <containing 3-6 C, non-aromatic> /

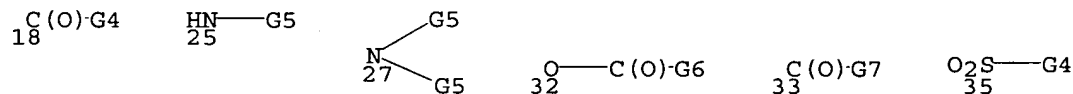
heterocycle <containing 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), non-aromatic, 3-, 4-, 5- or 6-membered rings only> / aryl <containing 6-12 C> / heteroaryl <containing 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms)> / (Examples: Bu-t / 2-furyl / cyclopentyl / Ph / Pr-i / 2-tetrahydrofuryl / 121)



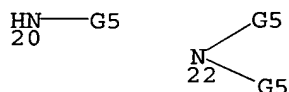
G2 = H / carbon chain <containing 1-6 C> (opt. substd. by (1-2) G3) / (Examples: 219 / CH<sub>2</sub>OMe / Pr-n / Me / 221 / 225 / 228)



G3 = OH / CO<sub>2</sub>H / alkoxy carbonyl <containing 1-5 C> / 18 / NO<sub>2</sub> / CN / CHO / F / Cl / Br / I / NH<sub>2</sub> / 25 / 27 / alkoxy <containing 1-6 C> / 32 / carbocycle <containing 3-6 C, non-aromatic> / heterocycle <containing 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), non-aromatic, 3-, 4-, 5- or 6-membered rings only> / aryl <containing 6-12 C> / heteroaryl <containing 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms)> / SH / SO<sub>3</sub>H / 33 / alkylsulfonyl <containing 1-6 C> / 35

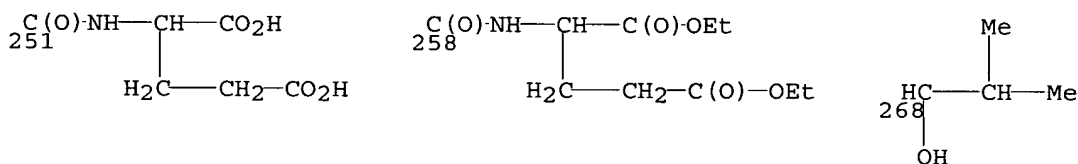
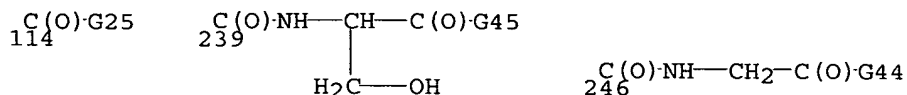
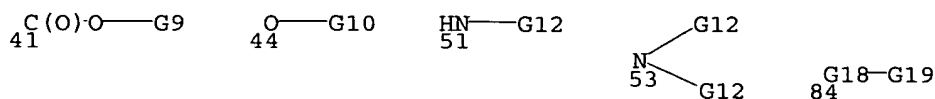


G4 = NH<sub>2</sub> / 20 / 22

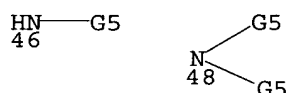


G5 = carbon chain <containing 1-3 C>  
G6 = carbon chain <containing 1-5 C> / R  
G7 = carbon chain <containing 1-5 C> / carbocycle <containing 3-5 C, non-aromatic>  
G8 = 1 or more H / F / Cl / Br / I / CO<sub>2</sub>H / 41 / CN / OH / 44 / NH<sub>2</sub> / 51 / 53 / heteroaryl <containing 1-4 heteroatoms, zero or more N, zero or more O,

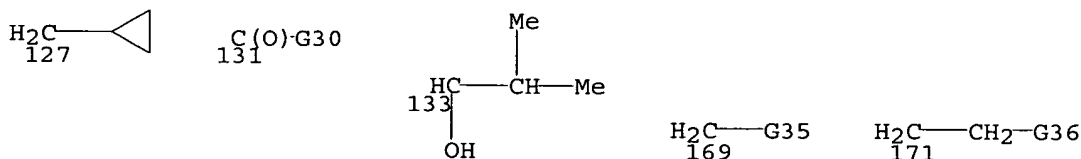
zero or more S (no other heteroatoms) > /  
 carbon chain <containing 1-6 C> (opt. substd. by (1-2) G17) /  
 84 / 114 / (Examples: OMe / 246 / 239 / 251 / 258 / COMe /  
 268)



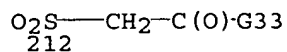
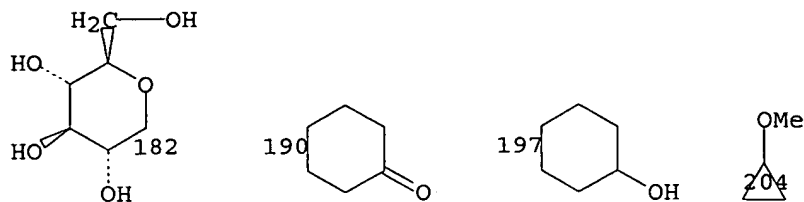
G9 = carbon chain <containing 1-3 C>  
 G10 = carbon chain <containing 1-3 C>  
 (opt. substd. by 1 or more G11)  
 G11 = NH<sub>2</sub> / 46 / 48 / OH / CO<sub>2</sub>H /  
 alkoxy carbonyl <containing 1-5 C>



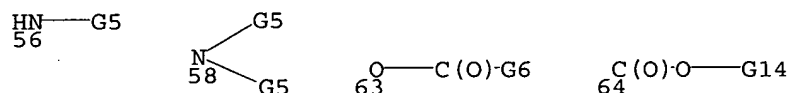
G12 = carbon chain <containing 1-6 C>  
 (opt. substd. by (1-2) G13) / carbocycle <containing 3-6 C,  
 non-aromatic> (opt. substd. by (1-2) G13) /  
 heterocycle <containing 1-4 heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 non-aromatic, 3-, 4-, 5- or 6-membered rings only>  
 (opt. substd. by (1-2) G13) / heteroaryl <containing 1-4  
 heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)>  
 (opt. substd. by (1-2) G13) / (Examples: 131 / 133 / 169 /  
 171 / Pr-i / cyclobutyl / 182 / 190 / 197 / 204 /  
 cyclopropyl / 4-pyridyl / Me / 127 / Pr-n / SO<sub>2</sub>Me / SO<sub>2</sub>Ph /  
 212)





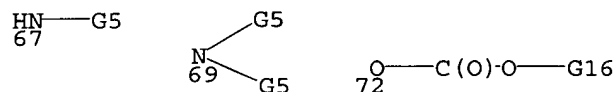


G13 = OH / CO<sub>2</sub>H / SO<sub>3</sub>H / aryl <containing 6-12 C> / heteroaryl <containing 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms)> / alkoxy <containing 1-6 C> / NH<sub>2</sub> / 56 / 58 / carbocycle <containing 3-6 C, non-aromatic> / heterocycle <containing 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), non-aromatic, 3-, 4-, 5- or 6-membered rings only> / alkoxy <containing 1-6 C> (substd. by OH) / alkoxy <containing 1-5 C> (substd. by alkoxy <containing 1-5 C>) / 63 / 64



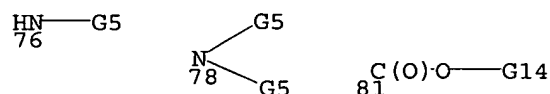
G14 = carbon chain <containing 1-6 C> (opt. substd. by (1-2) G15)

G15 = OH / NH<sub>2</sub> / 67 / 69 / alkoxy <containing 1-6 C> / aryl <containing 6-12 C> / carbocycle <containing 3-6 C, non-aromatic> / 72

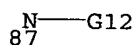


G16 = cycloalkyl <containing 3-6 C> / alkyl <containing 1-6 C>

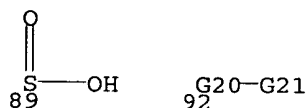
G17 = NH<sub>2</sub> / 76 / 78 / OH / SO<sub>3</sub>H / CO<sub>2</sub>H / alkoxy <containing 1-6 C> / 81 / carbocycle <containing 3-6 C, non-aromatic> / heterocycle <containing 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), non-aromatic, 3-, 4-, 5- or 6-membered rings only> / aryl <containing 6-12 C> / heteroaryl <containing 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms)>



G18 = NH / 87



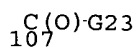
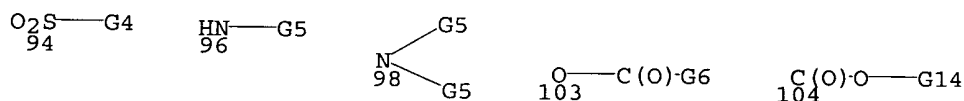
G19 = CHO / 89 / 92



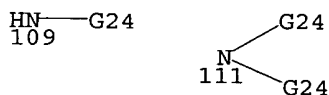
G20 = C(O) / SO2

G21 = carbon chain <containing 1-6 C>  
(opt. substd. by (1-2) G22) / carbocycle <containing 3-6 C,  
non-aromatic> (opt. substd. by (1-2) G22) /  
aryl <containing 6-12 C> / heteroaryl <containing 1-4  
heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> / CO2H /  
alkoxycarbonyl <containing 1-5 C>

G22 = OH / CO2H / carbocycle <containing 3-6 C,  
non-aromatic> / F / Cl / Br / I / CN / SO3H / CHO / 94 /  
NH2 / 96 / 98 / heterocycle <containing 1-4 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), non-aromatic, 3-, 4-,  
5- or 6-membered rings only> / aryl <containing 6-12 C> /  
heteroaryl <containing 1-4 heteroatoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms)> /  
103 / alkoxy <containing 1-6 C> /  
alkoxy <containing 1-5 C> (substd. by alkoxy <containing 1-5  
C>) / alkylsulfonyl <containing 1-6 C> /  
alkylsulfinyl <containing 1-6 C> /  
alkylthio <containing 1-6 C> / 104 / 107 / OPh /  
alkoxy <containing 1-6 C> (substd. by OH)

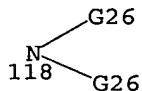
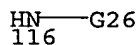


G23 = NH2 / 109 / 111

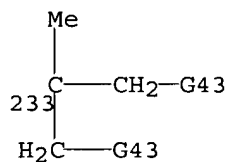
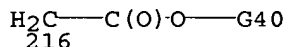
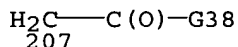
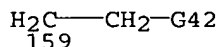
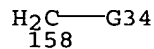
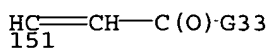
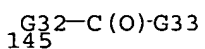
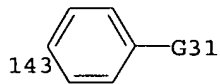


G24 = OH / SO2Me / alkyl <containing 1-6 C>  
(substd. by OH) / OCH2Ph / alkoxy <containing 1-6 C> /  
carbon chain <containing 1-6 C>

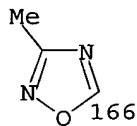
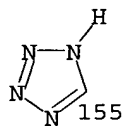
G25 = NH2 / 116 / 118 / heterocycle <containing 1 or more  
N, attached through 1 or more N, 5- or 6-membered rings only>  
(opt. substd. by G28)



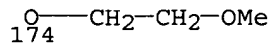
- G26 = heteroaryl <containing 1-4 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> /  
carbon chain <containing 1-6 C> (opt. substd. by (1-2) G27)
- G27 = CO<sub>2</sub>H / alkoxy carbonyl <containing 1-5 C> / OH
- G28 = alkoxy carbonyl <containing 1-5 C> / CO<sub>2</sub>H
- G29 = H / NH<sub>2</sub> / Br / R
- G30 = Ph / furyl / cyclopropyl / 3-pyridyl / cyclohexyl /  
143 / Me / 145 / 151 / CO<sub>2</sub>Et / 158 / 159 / CH<sub>2</sub>COMe / 207 /  
216 / 233



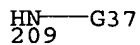
- G31 = SO<sub>2</sub>Me / NH<sub>2</sub>
- G32 = CH<sub>2</sub> / CMe<sub>2</sub> / CH<sub>2</sub>CH<sub>2</sub> / CHMe
- G33 = OEt / OH
- G34 = 155 / CN / 166



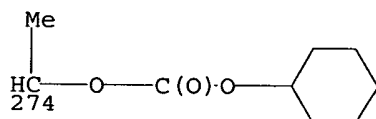
- G35 = 3-furyl / cyclopropyl / SO<sub>3</sub>H
- G36 = OH / 174



- G37 = OEt / OCH<sub>2</sub>Ph / OH / CH<sub>2</sub>CH<sub>2</sub>OH
- G38 = 209 / NMe<sub>2</sub> / NH<sub>2</sub>



G39 = (2-4) CH<sub>2</sub>  
 G40 = Bu-t / Me / CH<sub>2</sub>CH<sub>2</sub>CHMe<sub>2</sub> / CH<sub>2</sub>CH<sub>2</sub>OH / 274



G41 = NH<sub>2</sub> / NMe<sub>2</sub>  
 G42 = OMe / OH / NH<sub>2</sub>  
 G43 = OMe / OCOMe / OH  
 G44 = OH / OEt  
 G45 = OMe / OH

Patent location:

claim 1

Note: or salts or solvates

Note: additional oxo formation also claimed

Note: substitution is restricted

L71 ANSWER 5 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 144:205742 MARPAT  
 TITLE: Lonidamine analogs  
 INVENTOR(S): Matteucci, Mark; Rao, Photon; Duan, Jian-Xin  
 PATENT ASSIGNEE(S): Threshold Pharmaceuticals, Inc., USA  
 SOURCE: PCT Int. Appl., 220 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006015263	A2	20060209	WO 2005-US27092	20050729
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RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				

PRIORITY APPLN. INFO.:  
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 US 2004-592833P 20040729  
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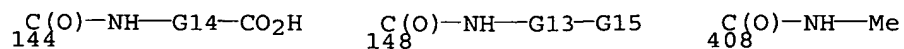
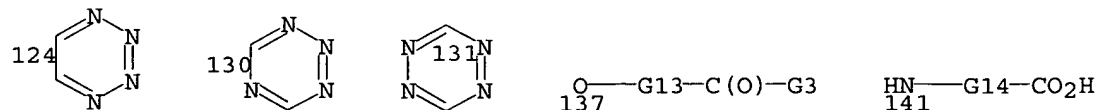
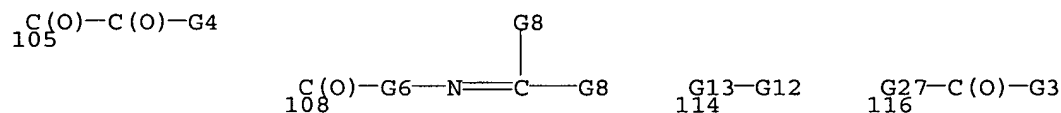
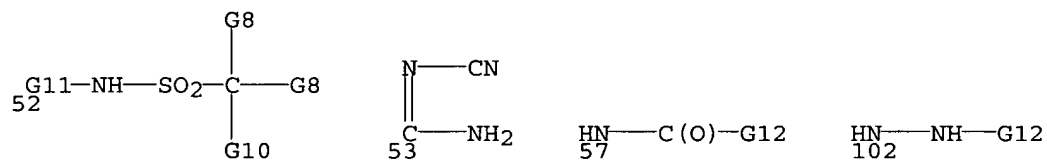
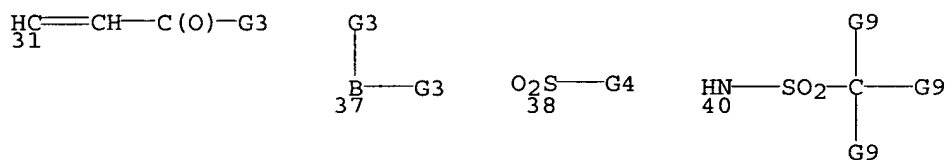
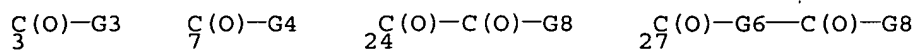
AB The present invention provides lonidamine analogs and pharmaceutical formulations of those compds. suitable for use as drugs in the methods of the invention for treating cancer and/or benign prostate hyperplasia (BPH). The drugs can have high aqueous solubility and extended pharmacokinetics in

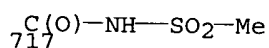
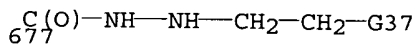
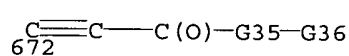
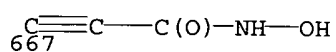
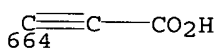
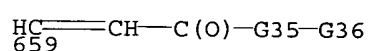
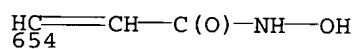
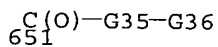
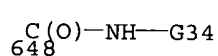
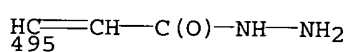
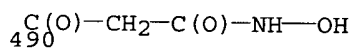
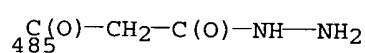
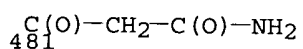
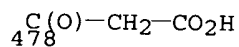
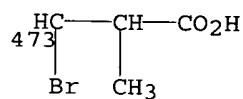
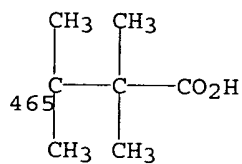
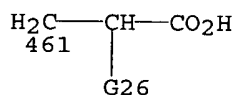
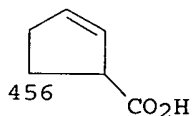
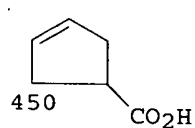
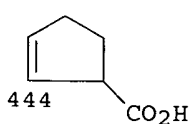
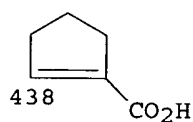
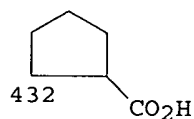
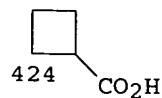
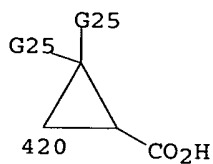
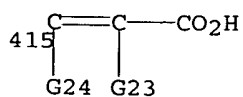
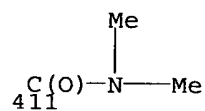
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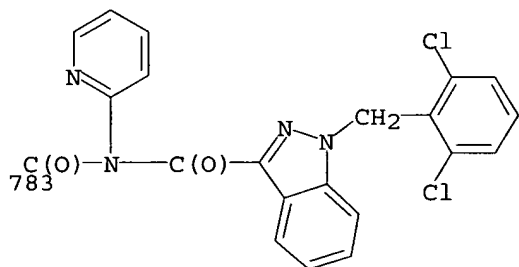
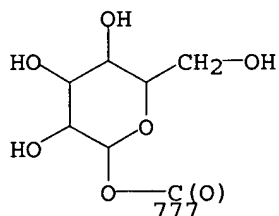
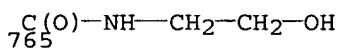
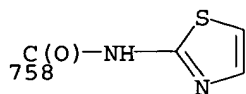
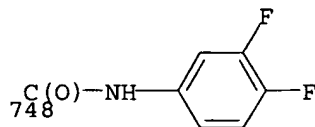
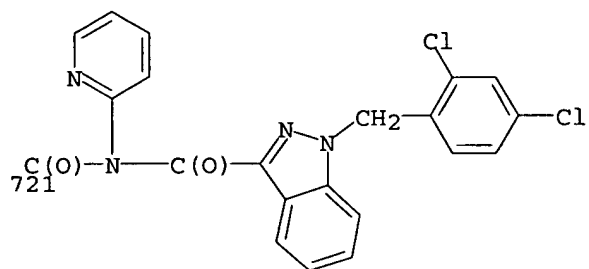
## MSTR 1



G1 = 3 / 7 / 24 / 27 / 31 / 37 / 38 / 40 / 52 / 53 / 57 /  
 102 / 105 / 108 / 114 / 116 / CN / 124 / 130 / 131 / 137 /  
 OPO3H2 / OSO3H / 141 / 144 / 148 /  
 (Specifically claimed: 408 / 411 / 415 / 420 / 424 / 432 /  
 438 / 444 / 450 / 456 / 461 / 465 / 473 / 478 / 481 / 485 /  
 490 / 495 / 648 / 651 / 654 / 659 / 664 / 667 / 672 / 677 /  
 717 / 721 / 748 / 758 / 765 / 777 / 783)







G2 = 152 / 155

G16	G20
152	155
G17	G19
153	156
G18	G18

G3 = OH / 5 / (Specifically claimed: 633)

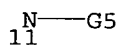
O—G5      O—G31—G32  
5            633

G4 = NH<sub>2</sub> / 9 / 13 / heterocycle <containing 1 or more N,  
zero or more O, zero or more S (no other heteroatoms),  
1-8 C, attached through 1 N>



G5 = carbon chain <containing 1-8 C,  
0 or more double bonds, 0 or more triple bonds> /  
R <"heteroalkyl", containing zero or more N, zero or more O,  
zero or more S, zero or more Si (no other heteroatoms)> /  
carbocycle <containing 3-8 C> /  
heterocycle <containing zero or more N, zero or more O,  
zero or more S (no other heteroatoms), 1-8 C> /  
aryl <containing 6-10 C, mono- or bicyclic> /  
heteroaryl <containing up to 12 atoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms),  
mono- or bicyclic>

G6 = NH / 11



G7 = NH<sub>2</sub> / 19 / OH / 17 / CN /  
heterocycle <containing 1 or more N, zero or more O,  
zero or more S (no other heteroatoms), 1-8 C,  
attached through 1 N>



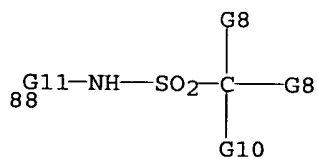
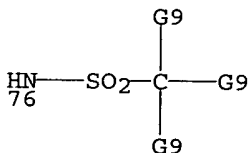
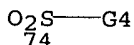
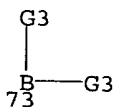
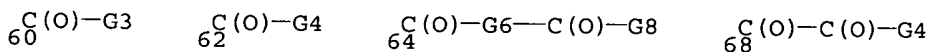
G8 = H / carbon chain <containing 1-8 C,  
0 or more double bonds, 0 or more triple bonds> /  
R <"heteroalkyl", containing zero or more N, zero or more O,  
zero or more S, zero or more Si (no other heteroatoms)> /  
carbocycle <containing 3-8 C> /  
heterocycle <containing zero or more N, zero or more O,  
zero or more S (no other heteroatoms), 1-8 C> /  
aryl <containing 6-10 C, mono- or bicyclic> /  
heteroaryl <containing up to 12 atoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms),  
mono- or bicyclic>

G9 = H / OH / F / Cl / Br / I

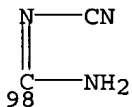
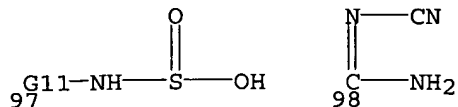
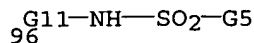
G10 = H / R

G11 = bond / C(O)

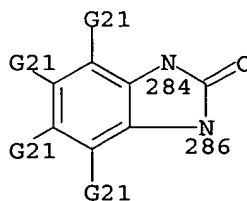
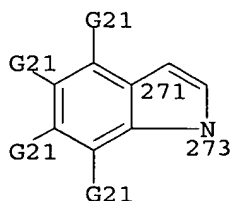
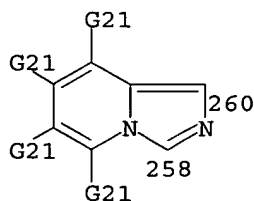
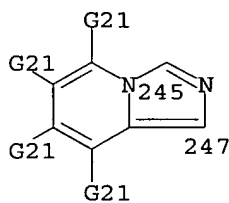
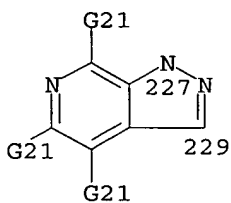
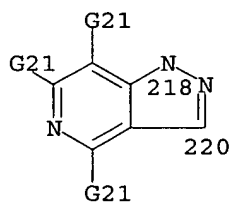
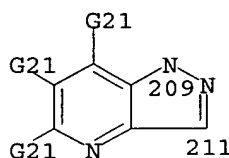
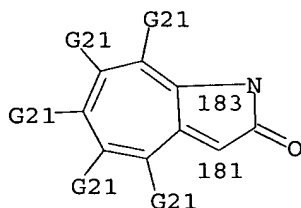
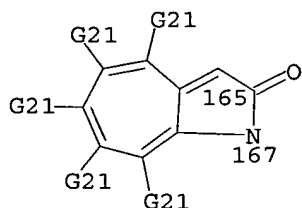
G12 = 60 / 62 / 64 / 68 / 73 / 74 / 76 / 88 / 96 / 97 / 98

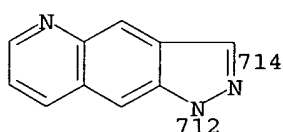
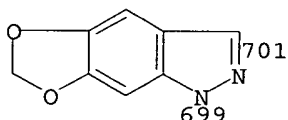
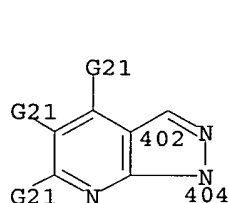
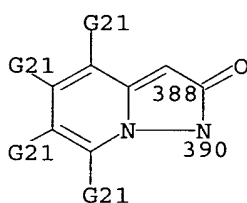
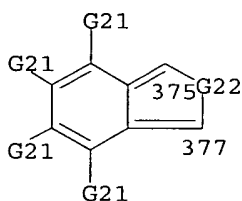
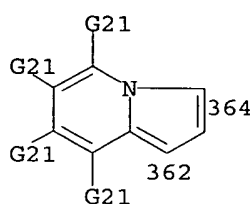
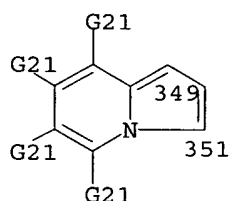
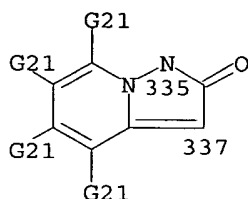
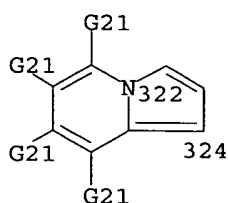
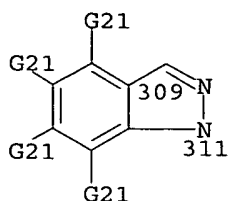
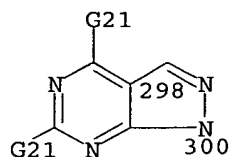






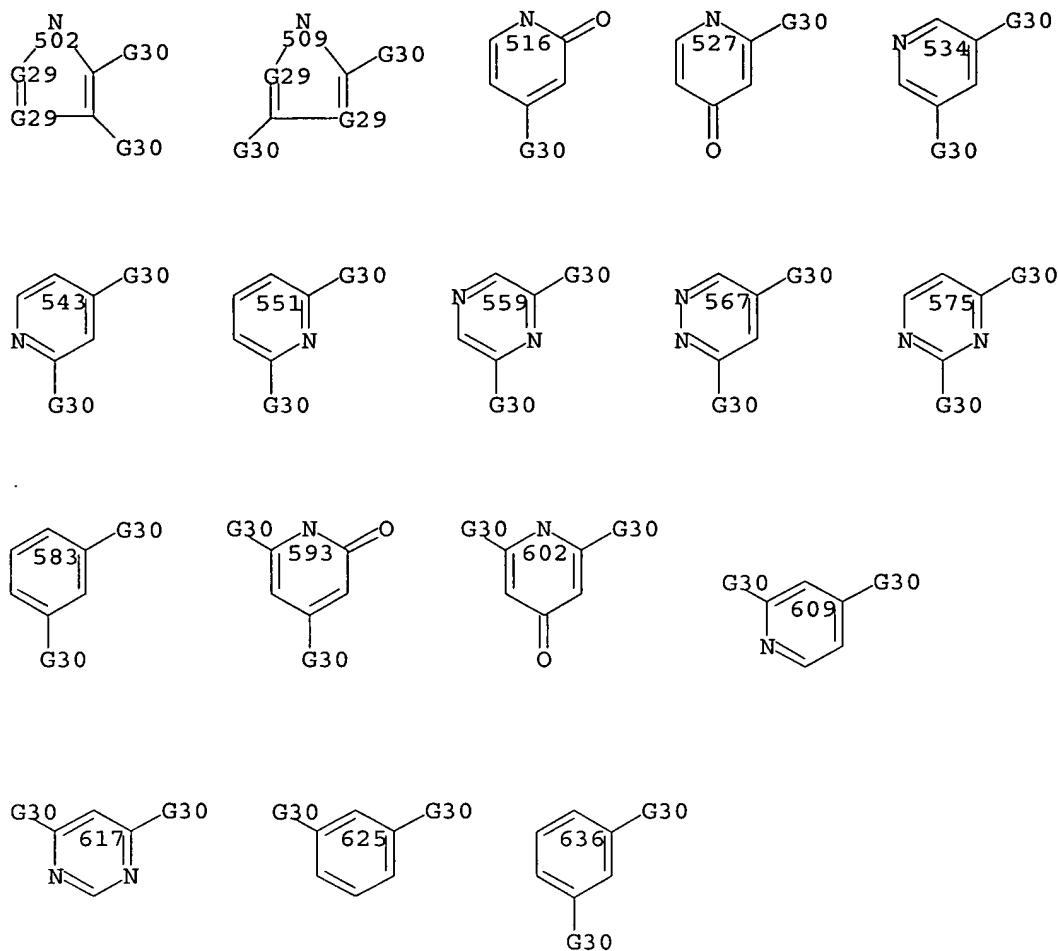
- G13 = carbon chain <containing 1-8 C,  
0 or more double bonds, 0 or more triple bonds> /  
any ring <containing zero or more N, zero or more O,  
zero or more S, zero or more Si (no other heteroatoms)> /  
R <"linking group">
- G14 = carbon chain <containing 1-8 C,  
0 or more double bonds, 0 or more triple bonds>  
(substd. by CO<sub>2</sub>H) / carbocycle <containing 3-8 C>  
(substd. by CO<sub>2</sub>H) / R <"linking group">
- G15 = carbocycle <containing 3-8 C>
- G16 = any ring <containing 8 or more atoms,  
zero or more N, zero or more O, zero or more S,  
zero or more Si (no other heteroatoms),  
attached through 2 or more atoms, 2 or more fusion atoms,  
polycyclic> (opt. substd.) / (**Specifically claimed: 167-153**  
**165-1** / 181-153 183-1 / 211-153 209-1 / 220-153 218-1 /  
229-153 227-1 / 247-153 245-1 / 258-153 260-1 /  
273-153 271-1 / 286-153 284-1 / 300-153 298-1 /  
311-153 309-1 / 324-153 322-1 / 337-153 335-1 /  
351-153 349-1 / 362-153 364-1 / 377-153 375-1 /  
390-153 388-1 / 404-153 402-1 / 699-153 701-1 /  
712-153 714-1 )



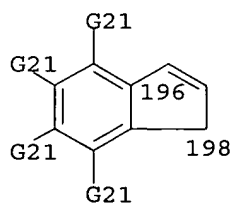


G17 = CH2 (opt. substd.) / NH (opt. substd.) / S / O

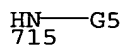
G18 = aryl <containing 6-10 C, mono- or bicyclic>  
(opt. substd. by G28) / heteroaryl <containing up to 12,  
atoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms), mono- or bicyclic>  
(opt. substd. by G28) / (Specifically claimed: pyrrolyl  
(opt. substd. by G28) / pyrazolyl (opt. substd. by G28) /  
imidazolyl (opt. substd. by G28) /  
pyridyl (opt. substd. by G28) /  
heterocycle <containing 6 atoms, 1 N (no other heteroatoms),  
non-aromatic, 2 double bonds, 6-membered monocyclic ring>  
(opt. substd. by G28) / pyrazinyl (opt. substd. by G28) /  
pyridazinyl (opt. substd. by G28) /  
pyrimidinyl (opt. substd. by G28) /  
Ph (opt. substd. by G33) / 502 / 509 / 516 / 527 / 534 /  
543 / 551 / 559 / 567 / 575 / 583 / 593 / 602 / 609 / 617 /  
625 / 636)



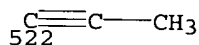
G19 = N / CH (opt. substd.)  
 G20 = any ring <containing 8 or more atoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms),  
 attached through 2 or more atoms, 2 or more fusion atoms,  
 polycyclic> (opt. substd.) / (Specifically claimed: 198-156  
 196-1 )



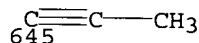
G21 = H / R / (Specifically claimed: NH2 / 715)



- G22 = O / S / NH / NMe  
 G23 = H / Me  
 G24 = H / Me / F / Cl / Br / I / CN  
 G25 = H / Cl  
 G26 = Me / F  
 G27 = carbon chain <containing 1-8 C,  
 0 or more double bonds, 0 or more triple bonds> /  
 carbocycle <containing 3-8 C> / R <"linking group"> /  
 (Specifically claimed: CH=CH (opt. substd.))  
 G28 = R / (Specifically claimed: F / Cl / Br / I /  
 alkyl <containing 1-8 C>)  
 G29 = N / CH  
 G30 = H / F / Cl / Br / CN / CF3 / CH3 / Pr-i / ethynyl /  
 522



- G31 = (1-4) CH2  
 G32 = NH2 / alkylamino <containing 1-8 C> /  
 dialkylamino <each alkyl containing 1-8 C> /  
 heterocycle <containing 1 or more N, zero or more O,  
 zero or more S (no other heteroatoms), attached through 1 N>  
 G33 = R / (Specifically claimed: F / Cl / Br / I /  
 alkyl <containing 1-8 C> / R <"heteroalkyl",  
 containing zero or more N, zero or more O, zero or more S,  
 zero or more Si (no other heteroatoms)> / CN / CF3 / Me /  
 Pr-i / ethynyl / 645 / Ph)



- G34 = pyridyl / Ph  
 G35 = NH / NMe  
 G36 = NH2 / NMe2 / NHMe  
 G37 = morpholino / NMe2 / 683 / NHMe



Patent location: claim 1  
 Note: additional substitution also claimed  
 Note: and pharmaceutically acceptable salts, solvates,  
 hydrates, and prodrugs  
 Note: substitution is restricted  
 Note: additional ring formation also claimed

L71 ANSWER 6 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 144:205737 MARPAT  
 TITLE: Multicyclic lonidamine analogs for inhibition of cell  
 proliferation  
 INVENTOR(S): Matteucci, Mark; Rao, Photon; Duan, Jian-Xin

PATENT ASSIGNEE(S): Threshold Pharmaceuticals, Inc., USA  
 SOURCE: PCT Int. Appl., 115 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006015191	A2	20060209	WO 2005-US26929	20050729
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				

PRIORITY APPLN. INFO.:  
 US 2004-592677P 20040729  
 US 2004-599664P 20040805  
 US 2005-651671P 20050209

AB The invention provides lonidamine analogs as well as methods of treating cancer and benign prostatic hyperplasia (BPH).

# MSTR 1A

G1  
 1  
 G2

G1 = 3 / 7 / 24 / 27 / 31 / 37 / 38 / 40 / 52 / 53 / 57 /  
 102 / 105 / 108 / 114 / 116 / CN / 124 / 130 / 131 / 137 /  
 OPO3H2 / OSO3H / 141 / 144 / 148 /  
 (Specifically claimed: 415 / 420 / 424 / 432 / 438 / 444 /  
 450 / 456 / 461 / 465 / 473 / 478 / 481 / 485 / 490 / 495)

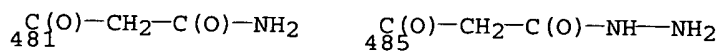
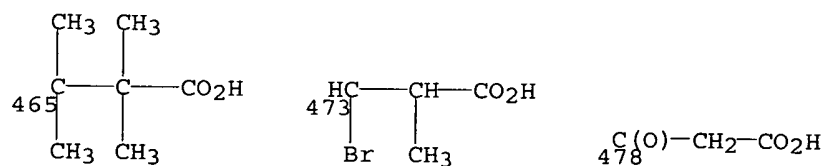
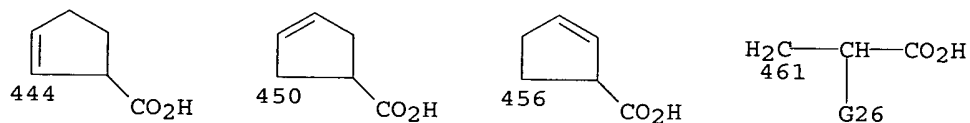
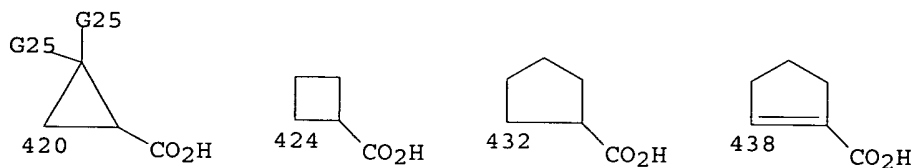
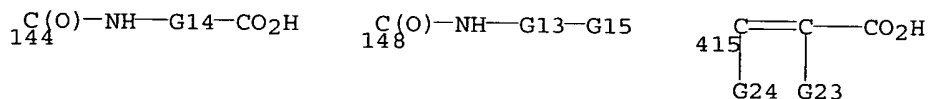
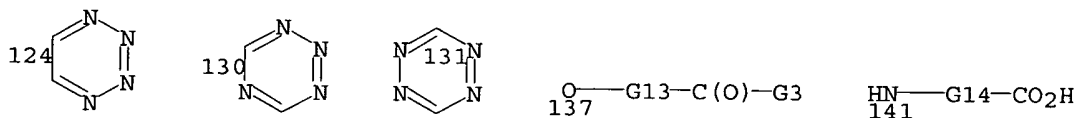
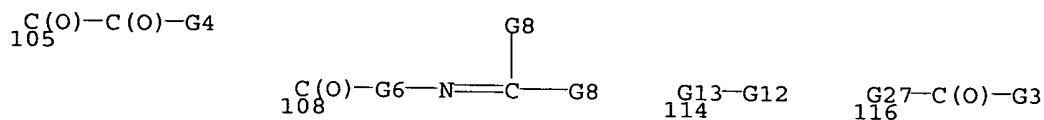
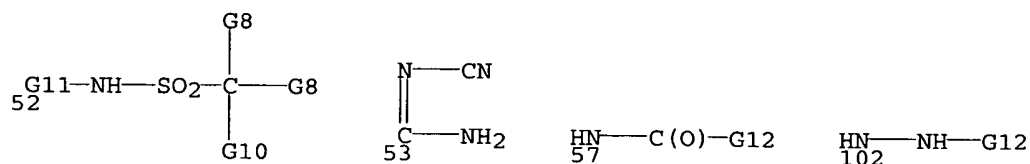
C(O)-G3      C(O)-G4      C(O)-C(O)-G8      C(O)-G6-C(O)-G8  
 3              7              24              27

HC=CH-C(O)-G3  
 31

G3  
 B-G3  
 37

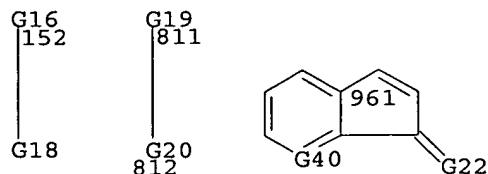
O<sub>2</sub>S-G4  
 38

G9  
 HN-SO<sub>2</sub>-C-G9  
 40  
 G9

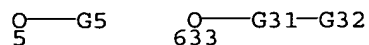




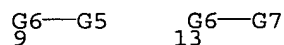
G2 = 152 / 811 / (Specifically claimed: 961)



G3 = OH / 5 / (Specifically claimed: 633)

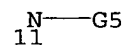


G4 = NH<sub>2</sub> / 9 / 13 / heterocycle <containing 1 or more N, zero or more O, zero or more S (no other heteroatoms), 1-8 C, attached through 1 N>



G5 = carbon chain <containing 1-8 C, 0 or more double bonds, 0 or more triple bonds> / R <"heteroalkyl", containing zero or more N, zero or more O, zero or more S, zero or more Si (no other heteroatoms)> / carbocycle <containing 3-8 C> / heterocycle <containing zero or more N, zero or more O, zero or more S (no other heteroatoms), 1-8 C> / aryl <containing 6-10 C, mono- or bicyclic> / heteroaryl <containing up to 12 atoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), mono- or bicyclic>

G6 = NH / 11



G7 = NH<sub>2</sub> / 19 / OH / 17 / CN / heterocycle <containing 1 or more N, zero or more O, zero or more S (no other heteroatoms), 1-8 C, attached through 1 N>



G8 = H / carbon chain <containing 1-8 C, 0 or more double bonds, 0 or more triple bonds> / R <"heteroalkyl", containing zero or more N, zero or more O, zero or more S, zero or more Si (no other heteroatoms)> /

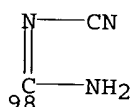
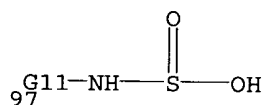
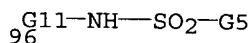
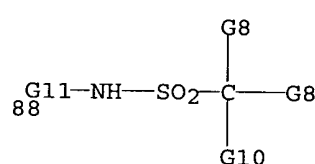
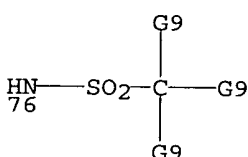
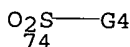
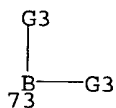
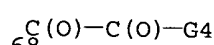
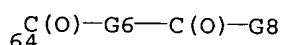
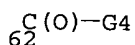
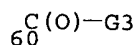
carbocycle <containing 3-8 C> /  
 heterocycle <containing zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), 1-8 C> /  
 aryl <containing 6-10 C, mono- or bicyclic> /  
 heteroaryl <containing up to 12 atoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 mono- or bicyclic>

G9 = H / OH / F / Cl / Br / I

G10 = H / R

G11 = bond / C(O)

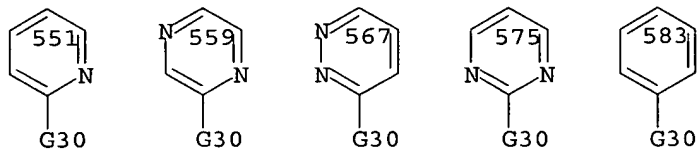
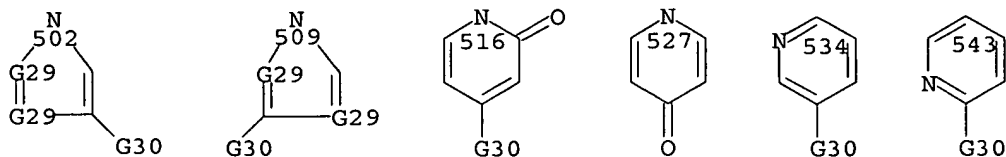
G12 = 60 / 62 / 64 / 68 / 73 / 74 / 76 / 88 / 96 / 97 /  
 98



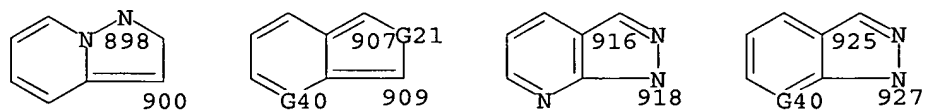
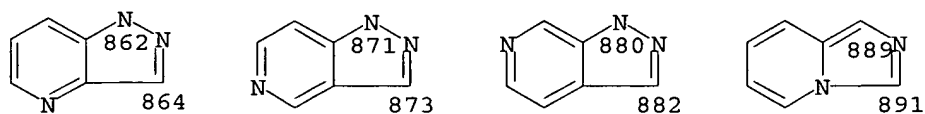
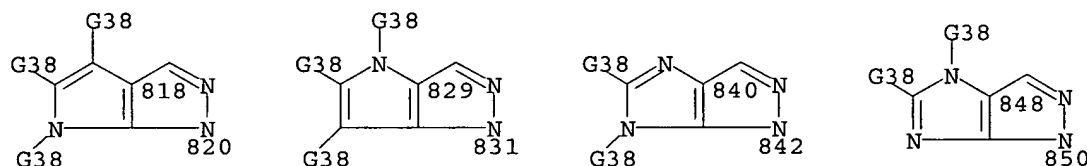
- G13 = carbon chain <containing 1-8 C,  
 0 or more double bonds, 0 or more triple bonds> /  
 any ring <containing zero or more N, zero or more O,  
 zero or more S, zero or more Si (no other heteroatoms)> /  
 R <"linking group">
- G14 = carbon chain <containing 1-8 C,  
 0 or more double bonds, 0 or more triple bonds>  
 (substd. by CO<sub>2</sub>H) / carbocycle <containing 3-8 C>  
 (substd. by CO<sub>2</sub>H) / R <"linking group">
- G15 = carbocycle <containing 3-8 C>
- G16 = any ring <containing 8 or more atoms,  
 zero or more N, zero or more O, zero or more S,  
 zero or more Si (no other heteroatoms),  
 attached through 2 or more atoms, 2 or more fusion atoms,  
 polycyclic> (opt. substd.)
- G18 = aryl <containing 6-10 C, mono- or bicyclic>  
 (opt. substd. by G28) / heteroaryl <containing up to 12  
 atoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), mono- or bicyclic>  
 (opt. substd. by G28) / (Specifically claimed: pyrrolyl  
 (opt. substd. by G28) / pyrazolyl (opt. substd. by G28) /  
 imidazolyl (opt. substd. by G28) /  
 pyridyl (opt. substd. by G28) /  
 heterocycle <containing 6 atoms, 1 heteroatom, 1 N,  
 2 double bonds, non-aromatic, 6-membered monocyclic ring>  
 (opt. substd. by G28) / pyrazinyl (opt. substd. by G28) /  
 pyridazinyl (opt. substd. by G28) /

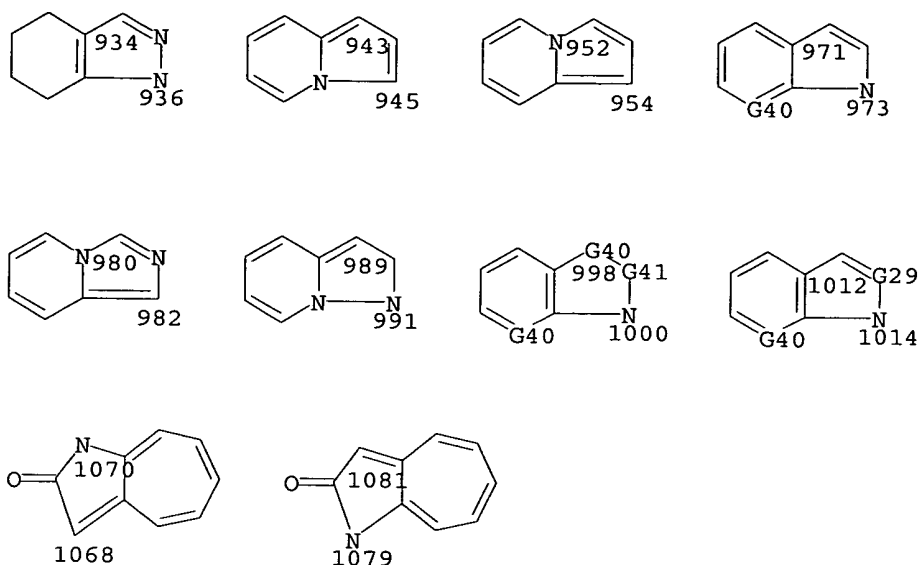


pyrimidinyl (opt. substd. by G28) /  
 Ph (opt. substd. by G33) / 502 / 509 / 516 / 527 / 534 /  
 543 / 551 / 559 / 567 / 575 / 583)

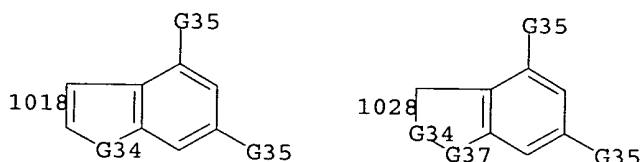


G19 = any ring <containing 8 or more atoms,  
 zero or more N, zero or more O, zero or more S,  
 zero or more Si (no other heteroatoms),  
 attached through 2 or more atoms, 2 or more fusion atoms,  
 polycyclic> (opt. substd.) / (Specifically claimed: 818-1  
 820-812 / 829-1 831-812 / 840-1 842-812 / 848-1 850-812 /  
 862-1 864-812 / 871-1 873-812 / 880-1 882-812 /  
 889-1 891-812 / 898-1 900-812 / 907-1 909-812 /  
 916-1 918-812 / 925-1 927-812 / 934-1 936-812 /  
 943-1 945-812 / 952-1 954-812 / 971-1 973-812 /  
 980-1 982-812 / 989-1 991-812 / 998-1 1000-812 /  
 1012-1 1014-812 / **1070-1 1068-812** / 1081-1 1079-812 )





G20 = any ring <containing 6 or more atoms,  
zero or more N, zero or more O, zero or more S,  
zero or more Si (no other heteroatoms), aromatic,  
2 or more double bonds, polycyclic> (opt. substd.) /  
(Specifically claimed: 1018 / 1028)



G21 = O / NH / S  
G22 = any ring <containing 6 or more atoms,  
zero or more N, zero or more O, zero or more S,  
zero or more Si (no other heteroatoms), aromatic,  
2 or more double bonds, polycyclic>  
G23 = H / Me  
G24 = H / Me / F / Cl / Br / I / CN  
G25 = H / Cl  
G26 = Me / F  
G27 = carbon chain <containing 1-8 C,  
0 or more double bonds, 0 or more triple bonds> /  
carbocycle <containing 3-8 C> / R <"linking group">  
G28 = R / (Specifically claimed: F / Cl / Br / I /  
alkyl <containing 1-8 C>)  
G29 = N / CH  
G30 = H / F / Cl / Br / I / alkyl <containing 1-8 C> / Me  
G31 = (1-4) CH2  
G32 = NH2 / alkylamino <containing 1-8 C> /  
dialkylamino <each alkyl containing 1-8 C> /  
heterocycle <containing 1 or more N, zero or more O,  
zero or more S (no other heteroatoms), attached through 1 N>  
G33 = R / (Specifically claimed: F / Cl / Br / I /  
alkyl <containing 1-8 C> / Me)

G34 = NH / CH2 / O / S  
 G35 = H / R / Cl / Me / Br  
 G37 = (0-2) CH2  
 G38 = H / R  
 G39 = H / R / F / Cl / Br / I / alkyl <containing 1-8 C> /  
       Me  
 G40 = N / 1016

C—G39  
 1016

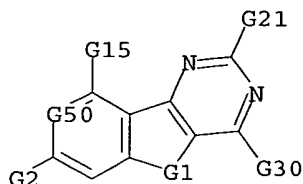
G41 = NH / CH2 / C(O)  
 Patent location: claim 1  
 Note: additional substitution also claimed  
 Note: and pharmaceutically acceptable salts, solvates,  
       hydrates, tautomers, and prodrugs  
 Note: additional ring formation also claimed

L71 ANSWER 7 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 144:192274 MARPAT  
 TITLE: Preparation of pyridothienopyrimidines and related  
       compounds as phosphodiesterase 4 and tumor necrosis  
       factor (TNF $\alpha$ ) release inhibitors  
 INVENTOR(S): Reichelt, Claudia; Ludwig, Alexander; Schulze,  
       Alexander; Daghighi, Mohammed; Leistner, Siegfried;  
       Kroedel, Andreas; Heinicke, Jochen  
 PATENT ASSIGNEE(S): Curacyte Discovery GmbH, Germany  
 SOURCE: PCT Int. Appl., 175 pp.  
       CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006010567	A1	20060202	WO 2005-EP8030	20050722
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
EP 1619196	A1	20060125	EP 2004-17542	20040723
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR			
EP 1623987	A1	20060208	EP 2004-18272	20040802
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR			
PRIORITY APPLN. INFO.:			EP 2004-17542	20040723
			EP 2004-18272	20040802
AB	Title compds. I and II [Y = S, O, N; R1 = H, alkyl, alkenyl, etc.; R2 = H,			

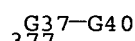
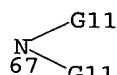
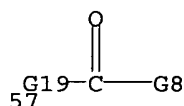
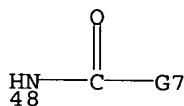
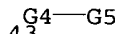
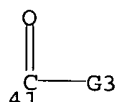
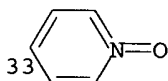
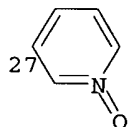
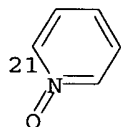
alkyl, alkenyl, etc.; R3 = H, alkyl, alkenyl, etc.; R4 = alkyl, cycloalkyl, alkenyl, etc.; R5 = OR6, NR7R8, etc.; R6 = Me, Et, t-Bu, etc.; NR7R8 = morpholino, pyrrolidino, piperidino, etc.] and their pharmaceutically acceptable salts were prepared. For example, condensation of piperazine and chloropyrimidine III afforded claimed thienopyrimidine IV in 18%. In phosphodiesterase 4 inhibition assays, compds. I exhibited IC50 values <2 nM.

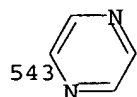
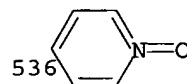
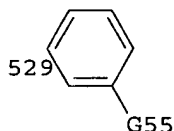
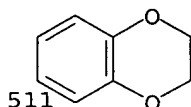
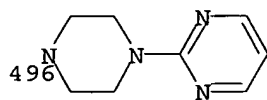
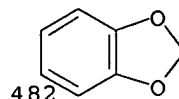
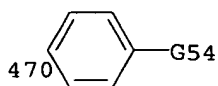
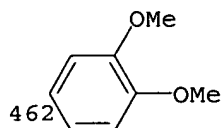
## MSTR 1



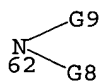
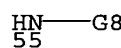
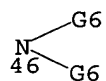
G1 = S / O / NH

G2 = H / carbon chain <containing 1-10 C,  
0 or more double bonds, 0 or more triple bonds>  
(opt. substd.) / carbocycle <containing 3-12 C,  
0 or more double bonds, 0 or more triple bonds>  
(opt. substd.) / alkyl <containing 1-5 C>  
(substd. by aryl <containing 6-12 C> (opt. substd.)) /  
Ph (opt. substd.) / 21 / 27 / 33 /  
heterocycle <containing 5-14 atoms, 1-4 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), mono- or bicyclic>  
(opt. substd.) / alkoxy <containing 1-10 C> (opt. substd.) /  
cycloalkyloxy <containing 3-10 C> (opt. substd.) /  
alkoxy <containing 1-5 C> (substd. by aryl <containing 6-12  
C> (opt. substd.)) / alkylcarbonyl <containing 1-12 C>  
(opt. substd.) / 41 / OH / SH / CN / SCN / NO2 / SO3H /  
alkoxysulfonyl <containing 1-6 C> (opt. substd.) /  
cycloalkyloxysulfonyl <containing 3-6 C> (opt. substd.) /  
43 / 48 / 57 / F / Cl / Br / I / NH2 / 64 / 67 / 377 /  
379 /  
(Specifically claimed: 462 / 470 / 482 / 496 / 511 / 529 /  
4-pyridyl / 536 / 3-pyridyl / 543 / Pr-i)



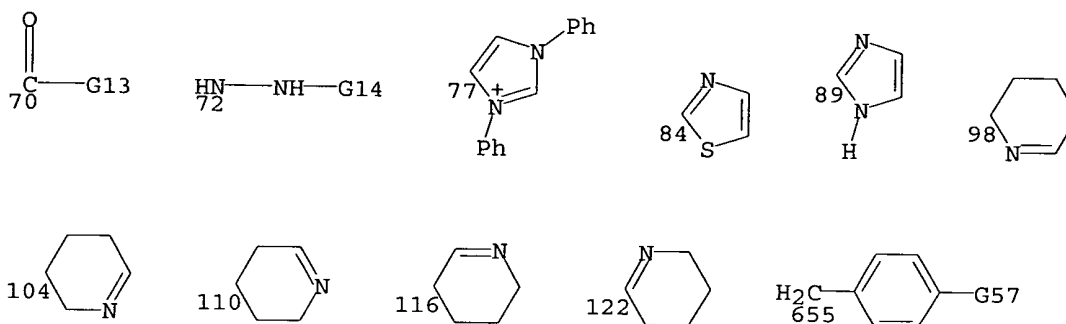
G35-G39-G40  
379

G3 = Ph (opt. substd.) / naphthyl (opt. substd.) / H / OH / NH<sub>2</sub> / alkoxy <containing 1-6 C> (opt. substd.) / alkylamino <containing 1-6 C> (opt. substd.) / 46 / cycloalkyloxy <containing 3-6 C> (opt. substd.) / cycloalkylamino <containing 3-6 C> (opt. substd.) / aryloxy <containing 6-10 C> (opt. substd.) / arylamino <containing 6-10 C> / 53 / alkoxy <containing 1-5 C> (substd. by aryl <containing 6-10 C> (opt. substd.)) / alkylamino <containing 1-5 C> (substd. by aryl <containing 6-10 C> (opt. substd.)) / heterocycle <containing 5-14 atoms, 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), mono- or bicyclic> (opt. substd.) / 55 / 62 / alkoxy <containing 1-5 C> (substd. by heterocycle <containing 5-14 atoms, 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), mono- or bicyclic> (opt. substd.))

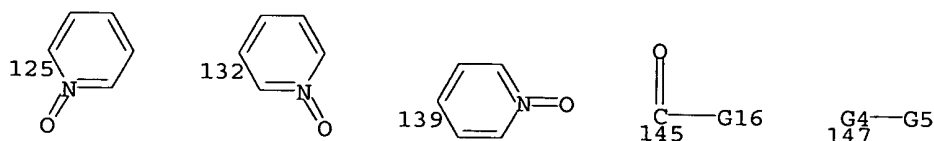


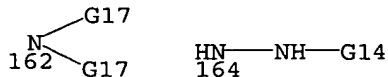
G4 = S / S(O) / SO<sub>2</sub>  
 G5 = alkyl <containing 1-6 C> (opt. substd.) / cycloalkyl <containing 3-6 C> (opt. substd.) / aryl (opt. substd.) / heteroaryl (opt. substd.)  
 G6 = alkyl <containing 1-6 C> (opt. substd.) / cycloalkyl <containing 3-6 C> (opt. substd.)  
 G7 = alkyl <containing 1-5 C> (opt. substd.)  
 G8 = heterocycle <containing 5-14 atoms, 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), mono- or bicyclic> (opt. substd.)  
 G9 = alkyl <containing 1-5 C> (opt. substd.)

- G10 = alkyl <containing 1-6 C> (opt. substd.) /  
cycloalkyl <containing 3-6 C> (opt. substd.) /  
aryl <containing 6-10 C> (opt. substd.) /  
heterocycle <containing 5-14 atoms, 1-4 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), mono- or bicyclic>  
(opt. substd.) / arylamino (opt. substd.)
- G11 = alkyl <containing 1-6 C> (opt. substd.) /  
cycloalkyl <containing 3-6 C> (opt. substd.)
- G12 = H / alkyl <containing 1-12 C> /  
alkenyl <containing 2-12 C> / alkynyl <containing 2-12 C> /  
CH<sub>2</sub>Ph (opt. substd.) / alkyl <containing 2-6 C>  
(substd. by Ph (opt. substd.)) / CH<sub>2</sub>COPh (opt. substd.) /  
70 / alkoxy (opt. substd.) / CN / NO<sub>2</sub> / NH<sub>2</sub> /  
alkylamino <containing 1-6 C> /  
dialkylamino <each alkyl containing 1-6 C> / 72 / 77 / 84 /  
89 / 98 / 104 / 110 / 116 / 122 / (Specifically claimed: 655)

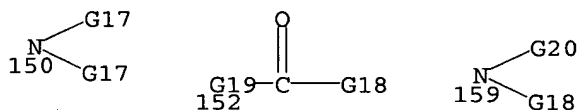


- G13 = OH / alkoxy <containing 1-4 C> / NH<sub>2</sub> /  
alkylamino <containing 1-6 C> /  
dialkylamino <each alkyl containing 1-6 C> / H
- G14 = Ph (opt. substd.)
- G15 = H / carbon chain <containing 1-10 C,  
0 or more double bonds, 0 or more triple bonds>  
(opt. substd.) / carbocycle <containing 3-12 C,  
0 or more double bonds, 0 or more triple bonds>  
(opt. substd.) / CF<sub>3</sub> / alkyl <containing 1-5 C>  
(substd. by aryl <containing 6-12 C> (opt. substd.)) /  
Ph (opt. substd.) / naphthyl / 125 / 132 / 139 /  
alkoxy <containing 1-10 C> (opt. substd.) /  
cycloalkyloxy <containing 3-10 C> (opt. substd.) /  
alkoxy <containing 1-5 C> (substd. by aryl <containing 6-12  
C> (opt. substd.)) / alkylcarbonyl <containing 1-12 C>  
(opt. substd.) / 145 / OH / SH / CN / SCN / NO<sub>2</sub> / SO<sub>3</sub>H /  
147 / alkoxysulfonyl <containing 1-6 C> (opt. substd.) /  
cycloalkyloxysulfonyl <containing 3-6 C> (opt. substd.) / F /  
Cl / Br / I / NH<sub>2</sub> / alkylamino <containing 1-6 C>  
(opt. substd.) / cycloalkylamino <containing 3-6 C>  
(opt. substd.) / 162 / arylamino <containing 6-10 C> / 164 /  
(Specifically claimed: Me / Et / Ph / Pr-i)

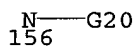




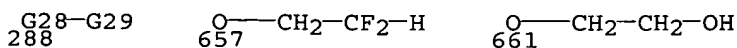
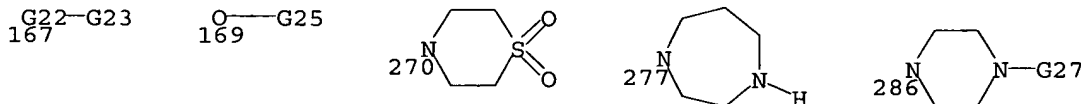
G16 = Ph (opt. substd.) / naphthyl (opt. substd.) / H / OH / NH<sub>2</sub> / alkoxy <containing 1-6 C> (opt. substd.) / cycloalkyloxy <containing 3-6 C> (opt. substd.) / alkylamino <containing 1-6 C> (opt. substd.) / cycloalkylamino <containing 3-6 C> (opt. substd.) / 150 / aryloxy <containing 6-10 C> (opt. substd.) / arylamino <containing 6-10 C> (opt. substd.) / 152 / 159 / alkoxy <containing 1-5 C> (substd. by aryl <containing 6-10 C> (opt. substd.)) / alkylamino <containing 1-5 C> (substd. by aryl <containing 6-10 C> (opt. substd.))



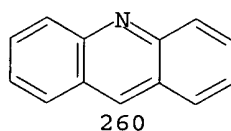
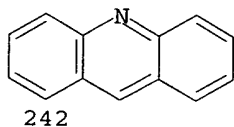
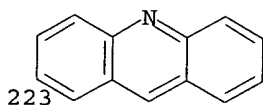
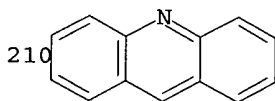
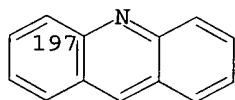
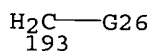
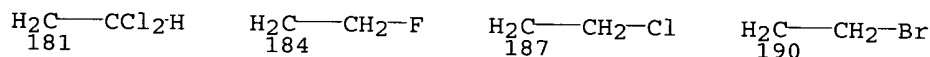
G17 = alkyl <containing 1-6 C> (opt. substd.) / cycloalkyl <containing 3-6 C> (opt. substd.)  
 G18 = aryl <containing 6-10 C> (opt. substd.)  
 G19 = NH / 156



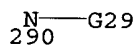
G20 = alkyl <containing 1-5 C> (opt. substd.)  
 G21 = alkyl <containing 2-14 C> (opt. substd.) / cycloalkyl <containing 3-14 C> (opt. substd.) / alkenyl <containing 2-14 C> (opt. substd.) / cycloalkenyl <containing 3-14 C> (opt. substd.) / alkynyl <containing 2-14 C> (opt. substd.) / Ph (opt. substd.) / naphthyl (opt. substd.) / 167 / heterocycle <containing 4-14 atoms, 1-5 heteroatoms, zero or more N, zero or more O, zero or more S, zero or more Se (no other heteroatoms), 1-3 rings> (opt. substd.) / 169 / morpholino / thiomorpholino / 270 / pyrrolidino / piperidino / piperazino / 277 / 286 / heterocycle <containing 5-14 atoms, 1 or more N, attached through 1 or more N> (opt. substd.) / 288 / NH<sub>2</sub> / (Specifically claimed: piperazino / OEt / 657 / Pr-i / 661 / OPr-i)



- G22 = S / S(O) / SO<sub>2</sub>  
 G23 = carbon chain <containing 1-6 C,  
 0 or more double bonds, 0 or more triple bonds>  
 (opt. substd. by 1 or more G24)  
 G24 = OH / CN / SCN / NO<sub>2</sub> / Ph /  
 cycloalkyl <containing 3-7 C>  
 G25 = Me / Et / Pr-n / Bu-n / Bu-t / CH<sub>2</sub>CH<sub>2</sub>OH / 171 /  
 CH<sub>2</sub>CH<sub>2</sub>SMe / 174 / 176 / 178 / 181 / 184 / 187 / 190 /  
 cycloalkyl <containing 3-7 C> / cyclopropyl / 193 /  
 cyclobutyl / cyclopentyl / cyclohexyl /  
 alkenyl <containing 2-5 C> / alkynyl <containing 2-5 C> /  
 cycloalkenyl <containing 3-7 C> /  
 aryl <containing 6-14 C, 1-3 rings> (opt. substd.) /  
 heterocycle <containing 6-14 atoms, aromatic, 1-3 rings>  
 (opt. substd.) / Ph (opt. substd.) /  
 naphthyl (opt. substd.) / pyridyl / isoquinolinyl /  
 quinolinyl / 197 / 210 / 223 / 242 / 260



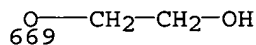
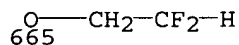
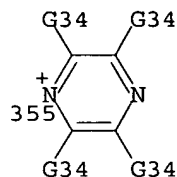
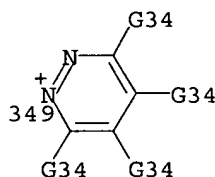
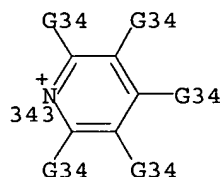
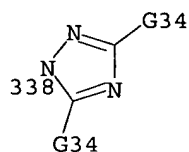
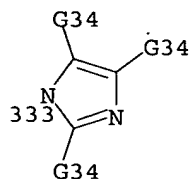
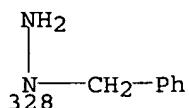
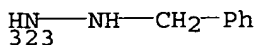
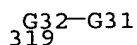
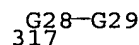
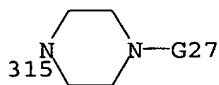
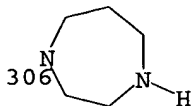
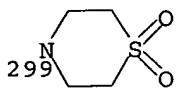
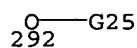
- G26 = cyclopropyl / cyclobutyl / cyclopentyl / cyclohexyl  
 G27 = alkyl <containing 1-5 C> / CH<sub>2</sub>CH<sub>2</sub>OH / CH<sub>2</sub>Ph / aryl  
 G28 = NH / 290



- G29 = alkyl <containing 1-6 C> (opt. substd.) /  
 CH<sub>2</sub>Ph (opt. substd.) / Ph (opt. substd.) /  
 naphthyl (opt. substd.) / pyridyl (opt. substd.) /  
 quinolinyl (opt. substd.) / isoquinolinyl (opt. substd.) /  
 2-thienyl (opt. substd.) / 2-furyl (opt. substd.)  
 G30 = 292 / morpholino / thiomorpholino / 299 /  
 pyrrolidino / piperidino / 306 / 315 /  
 heterocycle <containing 5-14 atoms, 1 or more N,  
 attached through 1 or more N> (opt. substd.) / 317 / NH<sub>2</sub> /

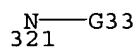


N3 / 319 / NHNH2 (opt. substd. by (1-2)  
 alkyl <containing 1-4 C> / 323 / 328 /  
 NHNH2 (substd. by (1-2) acyl) / NHCONH2 / 333 / 338 / 343 /  
 349 / 355 / (Specifically claimed: OEt / OPr-i / 665 /  
 OPr-n / 669 / piperazino)



G31 = OH / alkoxy <containing 1-3 C>

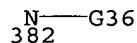
G32 = NH / 321



G33 = alkyl <containing 1-3 C>

G34 = H / alkyl

G35 = NH / 382 / O / S / S(O) / SO2



G36 = alkyl (opt. substd.)

G37 = carbocycle <containing 6-10 C, aromatic,  
 bonds all normalized, mono- or bicyclic,  
 (1-2) 6-membered rings only> (opt. substd.) /  
 heterocycle <containing 4-14 atoms, 1-5 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), mono- or bicyclic>  
 (opt. substd.) / 384 / any ring <tricyclic> (opt. substd.)

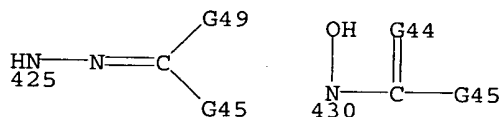
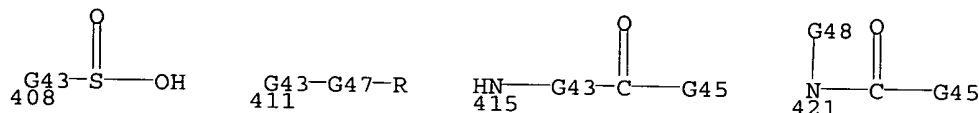
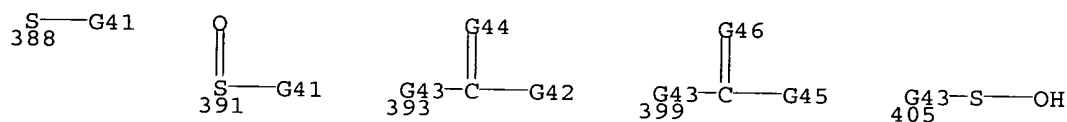
G38=O  
384

G38 = heterocycle <containing 4-14 atoms,  
1-5 heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms), mono- or bicyclic>  
(opt. substd.)

G39 = carbocycle <containing 6-10 C, aromatic,  
bonds all normalized, mono- or bicyclic,  
(1-2) 6-membered rings only> (opt. substd.) /  
heterocycle <containing 4-14 atoms, 1-5 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), mono- or bicyclic>  
(opt. substd.) / 386

G38=O  
386

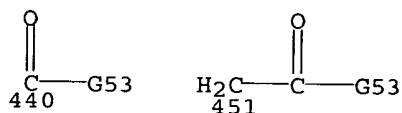
G40 = H / NH2 (opt. substd.) / OH (opt. substd.) /  
SH (opt. substd.) / 388 / 391 / Me (opt. substd.) /  
CH2OH (opt. substd.) / OMe (opt. substd.) / 393 / 399 / 405  
/  
408 / 411 / 415 / 421 / 425 / 430



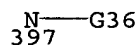
G41 = OH (opt. substd.)

G42 = H / alkyl (opt. substd.) / 440 / 451 /  
Ph (opt. substd.) / naphthyl (opt. substd.) /  
heterocycle <containing 4-14 atoms, 1-5 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), mono- or bicyclic>  
(opt. substd.) / NH2 / OH / 437

G51-G52  
437

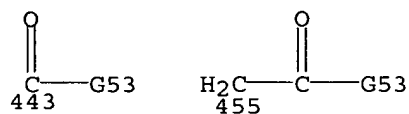


G43 = NH / 397

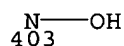


G44 = O / S

G45 = H / alkyl (opt. substd.) / 443 / 455 /  
Ph (opt. substd.) / naphthyl (opt. substd.) /  
heterocycle <containing 4-14 atoms, 1-5 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), mono- or bicyclic>  
(opt. substd.)



G46 = NH / 403

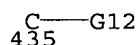


G47 = S(O) / SO<sub>2</sub>

G48 = NH<sub>2</sub> / alkylamino (opt. substd.)

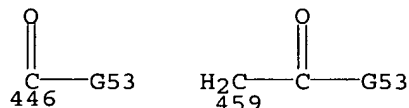
G49 = H / alkyl (opt. substd.)

G50 = 435 / N



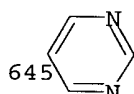
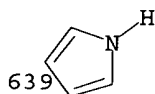
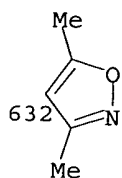
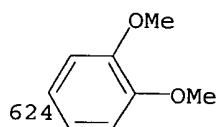
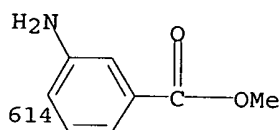
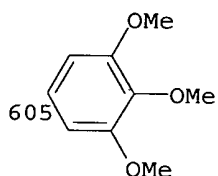
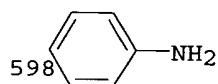
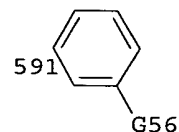
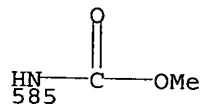
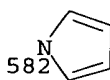
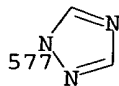
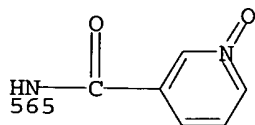
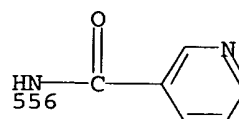
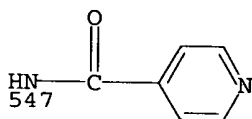
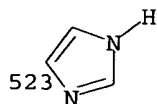
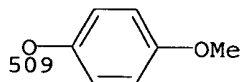
G51 = NH / O

G52 = alkyl (opt. substd.) / 446 / 459 /  
Ph (opt. substd.) / naphthyl (opt. substd.) /  
heterocycle <containing 4-14 atoms, 1-5 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), mono- or bicyclic>  
(opt. substd.)



G53 = NH<sub>2</sub> / alkylamino (opt. substd.) /  
arylamino (opt. substd.) / heteroarylamino (opt. substd.) /  
OH / alkoxy (opt. substd.) / alkyl (opt. substd.) /  
aryl (opt. substd.) / heteroaryl (opt. substd.)

G54 = OMe / F / H / Me / OEt / SMe / 509 / 523 /  
piperidino / morpholino / CO<sub>2</sub>Et / I / NO<sub>2</sub> / CN / NH<sub>2</sub> /  
S(O)Me / NHCHO / 547 / 556 / 565 / 577 / 582 / 585 / 591 /  
furyl / 3-pyridyl / 4-pyridyl / 598 / 605 / OPh / 614 / 624 /  
632 / Br / 639 / 645 / Ph / OPr-i / CH=CH<sub>2</sub>



G55 = NO<sub>2</sub> / CN / NH<sub>2</sub>  
 G56 = NH<sub>2</sub> / CO<sub>2</sub>Me  
 G57 = NO<sub>2</sub> / NH<sub>2</sub>

Patent location:

Note:

Note:

claim 1

substitution is restricted

and pharmaceutically acceptable salts, solvates, metabolites, tautomers, and prodrugs

REFERENCE COUNT:

9

THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 8 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 144:108206 MARPAT

TITLE:

Method of synthesizing indolinone compounds

INVENTOR(S):

Havens, Jeffrey L.; Vaidyanathan, Rajappa

PATENT ASSIGNEE(S):

Pharmacia & Upjohn Company LLC, USA

SOURCE:

U.S. Pat. Appl. Publ., 28 pp.

CODEN: USXXCO

DOCUMENT TYPE:

Patent

LANGUAGE:

English

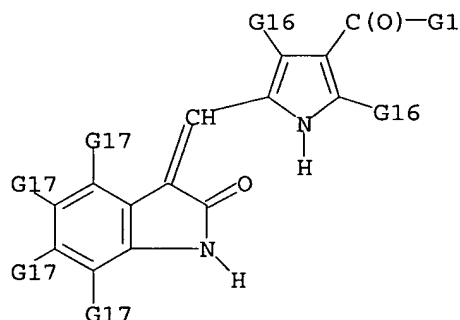
FAMILY ACC. NUM. COUNT: 1

## PATENT INFORMATION:

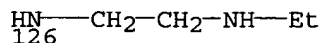
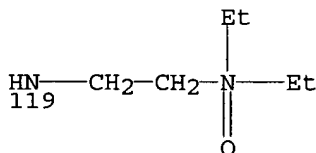
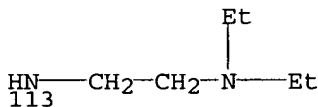
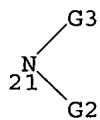
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2006009510	A1	20060112	US 2005-174892	20050705
PRIORITY APPLN. INFO.:			US 2004-586865P	20040709

AB A process for the preparation of indolinone compds. of formula I [R1 = -(CH<sub>2</sub>)<sub>m</sub>R<sub>9</sub> and one or more hydrogens in the -(CH<sub>2</sub>)<sub>m</sub> groups is optionally substituted by -OH; R<sub>2</sub> = H or C1-12alkyl; optionally, R<sub>1</sub> and R<sub>2</sub>, together with the nitrogen to which they are attached, can join to form a 5, 6, or 7-membered heterocyclic group optionally containing an addnl. N, O, or S ring atom; R<sub>3</sub> and R<sub>4</sub> = independently C1-12alkyl; R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub>, and R<sub>8</sub> = independently H, C1-12alkyl, C1-12alkoxy, C3-12cycloalkyl, etc.; R<sub>9</sub> = (un)substituted amine, -OH, C6-12aryl, C6-12alkaryl, etc.; m = 0-4], via a synthetic route wherein the amide sidechain on the pyrrole moiety is attached prior to pyrrole formation, is reported. Thus, diketene was ring-opened with N,N-diethylethylenediamine to form N-[2-(diethylamino)ethyl]-3-oxobutanamide which was treated with the oxime of t-Bu acetoacetate to give the pyrrole II in 53% yield. Pyrrole II is then decarboxylated and reacted with an oxindole and a formylating agent to provide III in 74% yield. The compds. of formula I are useful in the treatment of abnormal cell growth, such as cancer (no data).

## MSTR 1

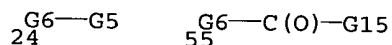


G1 = 21 / heterocycle <containing 5-7 atoms, 1-2 heteroatoms, 1 or more N, zero or more O, zero or more S (no other heteroatoms), attached through 1 or more N> / (Specifically claimed: 113 / 119 / 126)

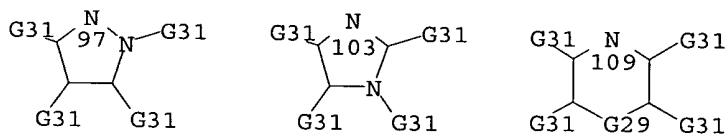
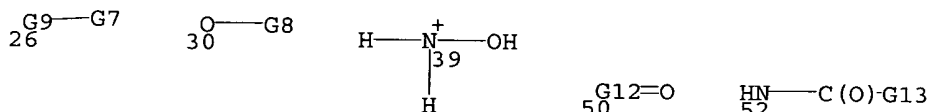


G2 = H / alkyl <containing 1-12 C>

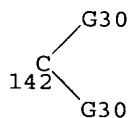
G3 = 24 / 55



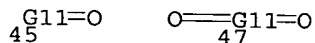
G5 = 26 / OH / aryl <containing 6-12 C>  
 (opt. substd. by 1 or more alkyl <containing 1-25 C>) / 30 /  
 39 / heterocycle <containing 4-6 atoms, 1-3 heteroatoms,  
 1 or more N, zero or more O, zero or more S (no other  
 heteroatoms), attached through 1 or more N, non-aromatic,  
 0 or more double bonds, 4- to 6-membered monocyclic ring>  
 (opt. substd. by 1 or more G32) / 50 / 52 /  
 heterocycle <containing 2-12 C, 1-3 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), non-aromatic,  
 0 or more double bonds> / (Specifically claimed: pyrrolidino  
 (opt. substd.) / 97 / 103 / 109)



G6 = (0-4) 142

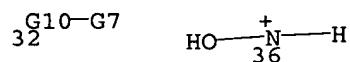


G7 = alkyl <containing 1-12 C>  
 (opt. substd. by 1 or more CN) /  
 carbocycle <containing 3-12 C, non-aromatic,  
 0 or more double bonds> / aryl <containing 6-12 C> /  
 heterocycle <containing 1-3 heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 non-aromatic, 0 or more double bonds> / 45 / 47

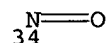


G8 = aryl <containing 6-12 C>  
 (opt. substd. by alkyl <containing 1-25 C>) /  
 heteroaryl <containing 5-12 atoms, 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)>  
 (opt. substd. by alkyl <containing 1-25 C>) /  
 alkyl <containing 1-12 C> / carbocycle <containing 3-12 C,

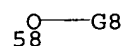
non-aromatic, 0 or more double bonds>  
 G9 = NH / 32 / 36



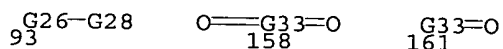
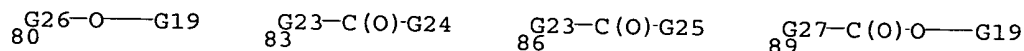
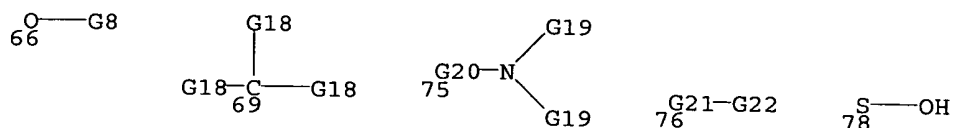
G10 = 34 / N



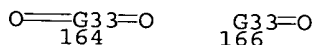
G11 = heterocycle <containing 1-3 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), non-aromatic,  
 0 or more double bonds>  
 G12 = heterocycle <containing 4-6 atoms, 1-3 heteroatoms,  
 1 or more N, zero or more O, zero or more S (no other  
 heteroatoms), attached through 1 or more N, non-aromatic,  
 0 or more double bonds, positively charged,  
 4- to 6-membered monocyclic ring> /  
 heterocycle <containing 2-12 C, 1-3 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), non-aromatic,  
 0 or more double bonds>  
 G13 = alkyl <containing 1-12 C>  
 (opt. substd. by 1 or more G14)  
 G14 = Br / Cl / F / I / aryl <containing 6-12 C> /  
 heteroaryl <containing 5-12 atoms, 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)>  
 G15 = OH / alkyl <containing 1-12 C> /  
 aryl <containing 6-12 C> / 58



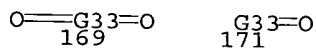
G16 = alkyl <containing 1-12 C> /  
 (Specifically claimed: Me)  
 G17 = H / alkyl <containing 1-12 C> / 66 /  
 carbocycle <containing 3-12 C, non-aromatic,  
 0 or more double bonds> / aryl <containing 6-12 C>  
 (opt. substd. by alkyl <containing 1-25 C>) /  
 heterocycle <containing 2-12 C, 1-3 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), non-aromatic,  
 0 or more double bonds> / Br / Cl / F / I / 69 / 75 / 76 /  
 78 / SH / 80 / NO2 / OH / CN / 83 / 86 / 89 /  
 heterocycle <containing 4-6 atoms, 1-3 heteroatoms,  
 1 or more N, zero or more O, zero or more S (no other  
 heteroatoms), attached through 1 or more N, non-aromatic,  
 0 or more double bonds, 4- to 6-membered monocyclic ring> /  
 93 / 158 / 161



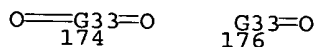
G18 = Br / Cl / F / I  
 G19 = H / alkyl <containing 1-12 C>  
       (opt. substd. by 1 or more CN) /  
       carbocycle <containing 5-12 C, non-aromatic,  
       0 or more double bonds> / aryl <containing 6-12 C> /  
       heterocycle <containing 2-12 C, 1-3 heteroatoms,  
       zero or more N, zero or more O,  
       zero or more S (no other heteroatoms), non-aromatic,  
       0 or more double bonds> / 164 / 166



G20 = bond / SO2 / C(O)  
 G21 = S(O) / S  
 G22 = alkyl <containing 1-12 C>  
       (opt. substd. by 1 or more CN) /  
       carbocycle <containing 5-12 C, non-aromatic,  
       0 or more double bonds> / aryl <containing 6-12 C> /  
       heterocycle <containing 2-12 C, 1-3 heteroatoms,  
       zero or more N, zero or more O,  
       zero or more S (no other heteroatoms), non-aromatic,  
       0 or more double bonds> / 169 / 171



G23 = bond / O / NH  
 G24 = alkyl <containing 1-12 C>  
       (opt. substd. by 1 or more CN)  
 G25 = H / carbocycle <containing 5-12 C, non-aromatic,  
       0 or more double bonds> / aryl <containing 6-12 C> /  
       heterocycle <containing 2-12 C, 1-3 heteroatoms,  
       zero or more N, zero or more O,  
       zero or more S (no other heteroatoms), non-aromatic,  
       0 or more double bonds> / 174 / 176





G26 = SO<sub>2</sub> / C(O)  
 G27 = (1-2) CH<sub>2</sub>  
 G28 = heterocycle <containing 4-6 atoms, 1-3 heteroatoms,  
 1 or more N, zero or more O, zero or more S (no other  
 heteroatoms), attached through 1 or more N, non-aromatic,  
 0 or more double bonds, 4- to 6-membered monocyclic ring>  
 G29 = O / S / 155

N—G31  
 155

G30 = H / OH  
 G31 = H / R  
 G32 = alkyl <containing 1-12 C>  
 (opt. substd. by 1 or more CN) /  
 carbocycle <containing 5-12 C, non-aromatic,  
 0 or more double bonds> / aryl <containing 6-12 C> /  
 heterocycle <containing 1-3 heteroatoms, 2-12 C,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.)  
 G33 = heterocycle <containing 1-3 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), non-aromatic,  
 0 or more double bonds>  
 Patent location: claim 1  
 Note: additional oxo groups also claimed  
 Note: additional substitution also claimed

L71 ANSWER 9 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 144:69830 MARPAT  
 TITLE: Preparation of 5-membered heterocycles as serine  
 protease inhibitors for treatment of thromboembolic  
 disorders.  
 INVENTOR(S): Hangeland, Jon J.; Quan, Mimi L.; Smallheer, Joanne  
 M.; Bisacchi, Gregory S.; Corte, James R.; Friends,  
 Todd J.; Sun, Zhong; Rossi, Karen A.; Cavallaro,  
 Cullen L.  
 PATENT ASSIGNEE(S): USA  
 SOURCE: U.S. Pat. Appl. Publ., 166 pp., which  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005282805	A1	20051222	US 2005-151667	20050613
WO 2005123050	A2	20051229	WO 2005-US21212	20050614
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RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,				

EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,  
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MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.:

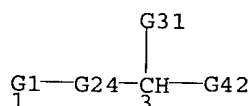
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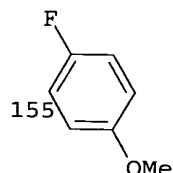
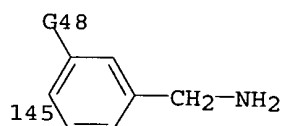
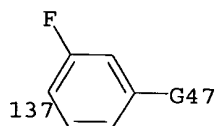
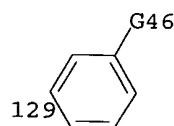
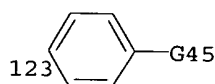
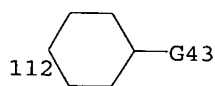
AB Title compds. e.g. [I; A = (substituted) carbocyclyl, heterocyclyl; L = CONR10, CH2CONR10, SO2NR10, CH2CH2, CH2O, COCH2, etc.; R3 = (CH2)<sub>r</sub>CONR8R9, (substituted) carbocyclyl(alkyl), heterocyclyl(alkyl), etc.; R4 = H, F, Cl, Br, iodo, OCF3, cyano, NO2, (substituted) alkyl, alkenyl, alkynyl, carbocyclyl, heterocyclyl, etc.; R6 = H; R8 = H, (substituted) alkyl, phenyl(alkyl), heterocyclylalkyl; R9 = H, (substituted) alkyl, phenyl(alkyl); R10 = H, (substituted) alkyl, alkenyl, alkynyl, carbocyclyl, heterocyclyl; r = 0-4], were prepared Thus, (S)-2-phenyl-1-(4-phenyl-1H-imidazol-2-yl)ethanamine bistrifluoroacetate (preparation given), 4-amidinobenzoic acid hydrochloride, and BOP reagent were stirred in pyridine for 16 h to give 3% (S)-4-carbamimidoyl-N-[2-phenyl-1-(4-phenyl-1H-imidazol-2-yl)ethyl]benzamide. I are useful as selective inhibitors of serine protease enzymes of the coagulation cascade and/or contact activation system such as thrombin, factor Xa, factor XIa, factor IXa, factor VIIa and/or plasma kallikrein; preferred I inhibited these with Ki values of ≤15 μM.

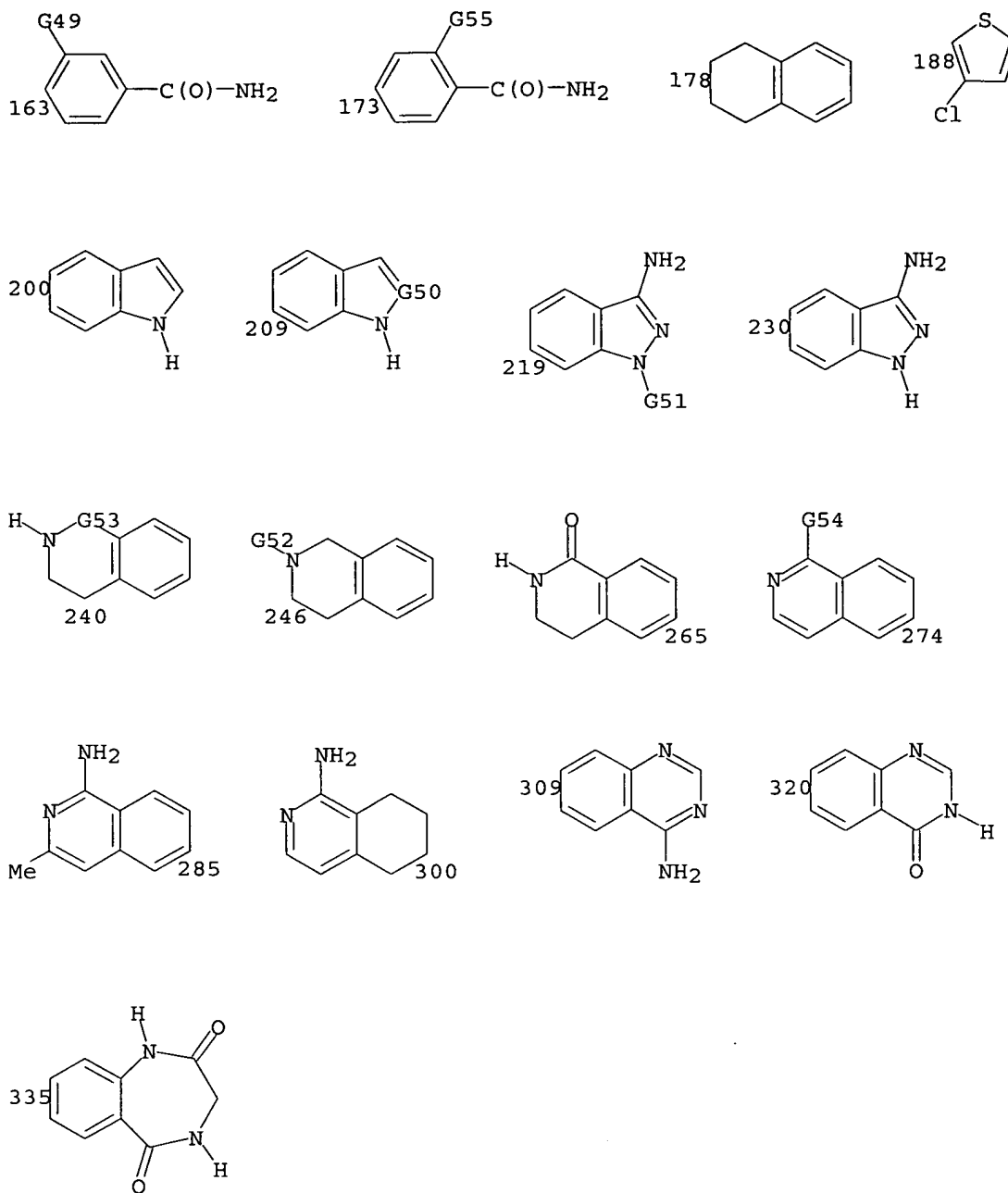
# MSTR 1



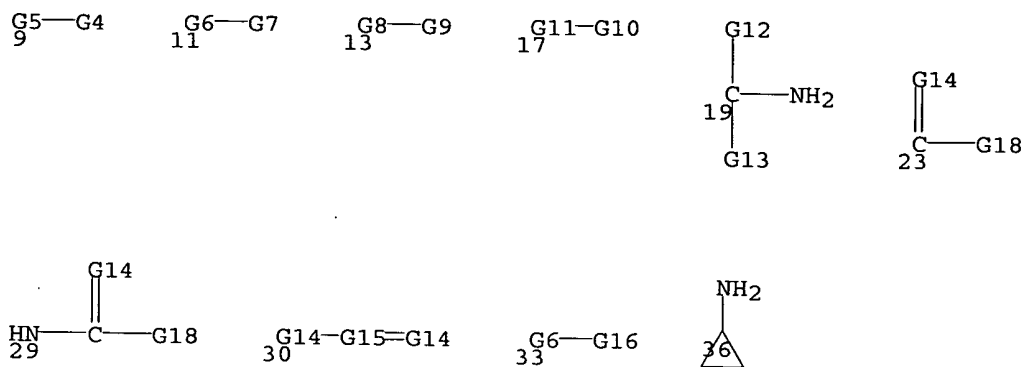
G1 = carbocycle <containing 3-10 C>  
(opt. substd. by G2) / heterocycle <containing 5-12 atoms,  
1-4 heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms),  
attached through 1 or more C> (opt. substd. by G2) / 51 /  
(Specifically claimed: 112 / 123 / 129 / 137 / 145 / 155 /  
163 / 173 / 178 / 188 / 200 / 209 / 219 / 230 / 240 / 246 /  
265 / 274 / 285 / 300 / 309 / 320 / 335)

G22=G23  
51





G2 = (up to 1) G3 / (up to 3) G17  
 G3 = NH2 / alkylamino <containing 1-3 C> /  
 dialkylamino <each alkyl containing 1-3 C> / C(NH)NH2 / 9 /  
 heterocycle <containing 5-10 atoms, 1-3 heteroatoms,  
 1 or more N, zero or more O, zero or more S (no other  
 heteroatoms), attached through 1 or more N> / 11 / 13 / 17 /  
 19 / 23 / 29 / 30 / F / Cl / Br / I / OCF3 / CF3 /  
 OH (opt. substd.) / SH (opt. substd.) / 33 / CN / 36 /  
 alkyl <containing 1-6 C> (opt. substd.)



G4 = NH<sub>2</sub> (opt. substd.)  
 G5 = C(O) / S / S(O) / SO<sub>2</sub>  
 G6 = (1-4) CH<sub>2</sub>  
 G7 = NH<sub>2</sub> (opt. substd.) / heterocycle <containing 5-10 atoms, 1-3 heteroatoms, 1 or more N, zero or more O, zero or more S (no other heteroatoms), attached through 1 or more N> / 15

$\begin{array}{c} \text{G8} \text{---} \text{G9} \\ \text{15} \end{array}$

G8 = NH (opt. substd.)  
 G9 = CO<sub>2</sub>H (opt. substd.)  
 G10 = NH<sub>2</sub> / alkylamino <containing 1-3 C> / dialkylamino <each alkyl containing 1-3 C>  
 G11 = (1-2) CH<sub>2</sub>  
 G12 = alkyl <containing 1-3 C>  
 G13 = H / alkyl <containing 1-3 C>  
 G14 = NH (opt. substd.)  
 G15 = CH (opt. substd.)  
 G16 = OH (opt. substd.) / SH (opt. substd.)  
 G17 = F / Cl / Br / I / OCF<sub>3</sub> / CF<sub>3</sub> / 39 / CN / NO<sub>2</sub> / OH (opt. substd.) / SH (opt. substd.) / CHO (opt. substd.) / CO<sub>2</sub>H (opt. substd.) / OCHO (opt. substd.) / NH<sub>2</sub> (opt. substd.) / heterocycle <containing 5-10 atoms, 1-3 heteroatoms, 1 or more N, zero or more O, zero or more S (no other heteroatoms), attached through 1 or more N> / 41 / 43 / SO<sub>2</sub>NH<sub>2</sub> (opt. substd.) / 47 / alkyl <containing 1-6 C> (opt. substd.) / alkenyl <containing 2-6 C> (opt. substd.) / alkynyl <containing 2-5 C> (opt. substd.) / carbocycle <containing 3-10 C> (opt. substd.) / heterocycle <containing 5-10 atoms, 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms)> (opt. substd.) / 49

$\begin{array}{c} \text{F}_2\text{C} \text{---} \text{H} \\ \text{39} \end{array}$ 
 $\begin{array}{c} \text{C(O)} \text{---} \text{G18} \\ \text{41} \end{array}$ 
 $\begin{array}{c} \text{G14} \text{---} \text{G19} \\ \text{43} \end{array}$ 
 $\begin{array}{c} \text{G20} \text{---} \text{R} \\ \text{47} \end{array}$ 
 $\begin{array}{c} \text{G6} \text{---} \text{G21} \\ \text{49} \end{array}$

G18 = NH<sub>2</sub> (opt. substd.) / heterocycle <containing 5-10 atoms, 1-3 heteroatoms, 1 or more N, zero or more O, zero or more S (no other heteroatoms),

attached through 1 or more N>  
 G19 = CHO (opt. substd.) / 45

$\text{O}_2\text{S}-\text{R}$   
 45

G20 = S(O) / SO2  
 G21 = carbocycle <containing 3-10 C> (opt. substd.) /  
 heterocycle <containing 5-10 atoms, 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.)  
 G22 = carbocycle <containing 3-10 C> (opt. substd.) /  
 heterocycle <containing 5-12 atoms, 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.)  
 G23 = NH (opt. substd.) / 0  
 G24 = 53-1 54-3 / 55-1 56-3

$\text{C}(\text{O})-\text{G25}$        $\text{G25}-\text{C}(\text{O})$   
 53 54              55 56

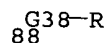
G25 = NH (opt. substd.)  
 G31 = alkyl <containing 1-4 C>  
 (substd. by 1 or more G32) / CONH2 (opt. substd.) / 77 /  
 alkyl <containing 1-6 C> (opt. substd.) /  
 alkenyl <containing 2-6 C> (opt. substd.) /  
 alkynyl <containing 2-5 C> (opt. substd.) /  
 carbocycle <containing 3-10 C> /  
 heterocycle <containing 5-10 atoms, 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> / 79 /  
 (Specifically claimed: Me / CH2CMe3 / 703 / 710)

$\text{G6}-\text{G33}$        $\text{G34}-\text{G35}$        $\text{H}_2\text{C}-\text{G73}$        $\text{H}_2\text{C}-\text{CH}_2-\text{G74}$   
 77              79              703              710

G32 = F / Cl / Br / I  
 G33 = CONH2 (opt. substd.)  
 G34 = alkylene <containing 1 or more C> (opt. substd.)  
 G35 = carbocycle <containing 3-10 C> /  
 heterocycle <containing 5-10 atoms, 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)>  
 G36 = (1) G39 / H / F / Cl / Br / I / OCF3 / CF3 /  
 OH (opt. substd.) / SH (opt. substd.) / CN / NO2 /  
 CHO (opt. substd.) / CO2H (opt. substd.) /  
 OCHO (opt. substd.) / NH2 (opt. substd.) /  
 heterocycle <containing 5-10 atoms, 1-3 heteroatoms,  
 1 or more N, zero or more O, zero or more S (no other  
 heteroatoms), attached through 1 or more N> / 86 / 84 / 90 /  
 alkyl <containing 1-6 C> (opt. substd.) /  
 alkenyl <containing 2-6 C> (opt. substd.) /  
 alkynyl <containing 2-6 C> (opt. substd.) /  
 carbocycle <containing 3-10 C> (opt. substd.) /  
 heterocycle <containing 5-10 atoms, 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.) / 92

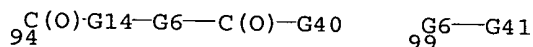


G37 = CHO (opt. substd.) / 88



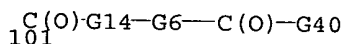
G38 = S / S(O) / SO<sub>2</sub>

G39 = CONH<sub>2</sub> (opt. substd.) / 94 / CO<sub>2</sub>H (opt. substd.) /  
carbocycle <containing 3-10 C> (opt. substd.) /  
heterocycle <containing 5-10 atoms, 1-4 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.) / 99

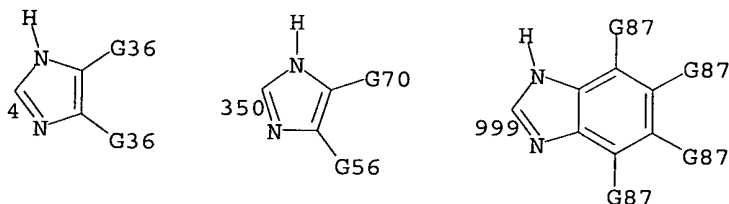


G40 = OH (opt. substd.)

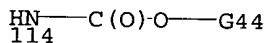
G41 = CONH<sub>2</sub> (opt. substd.) / 101 / CO<sub>2</sub>H (opt. substd.) /  
carbocycle <containing 3-10 C> (opt. substd.) /  
heterocycle <containing 5-10 atoms, 1-4 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.)



G42 = 4 / (Specifically claimed: 350 / 999)



G43 = CH<sub>2</sub>NH<sub>2</sub> / CO<sub>2</sub>Me / CONH<sub>2</sub> / 114



G44 = Bu-t / CH<sub>2</sub>Ph

G45 = H / Me / CH<sub>2</sub>NH<sub>2</sub> / CONH<sub>2</sub> / C(NH)NH<sub>2</sub> / SO<sub>2</sub>NH<sub>2</sub>

G46 = OMe / CONH<sub>2</sub> / C(NH)NH<sub>2</sub>

G47 = Me / Cl / CH<sub>2</sub>NH<sub>2</sub> / CONH<sub>2</sub>

G48 = CH<sub>2</sub>Ph / Et / NHEt

G49 = Cl / OMe

G50 = CH / N

G51 = H / Me

G52 = H / C(=O)Ph / CO<sub>2</sub>CH<sub>2</sub>Ph

G53 = CH<sub>2</sub> / C(=O)

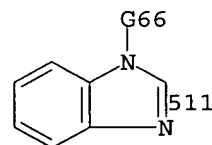
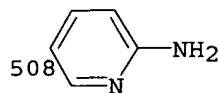
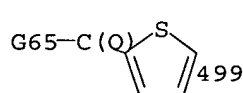
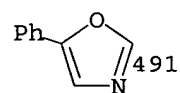
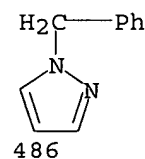
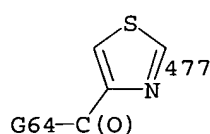
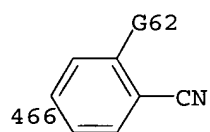
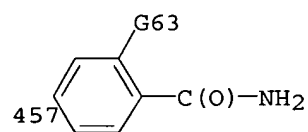
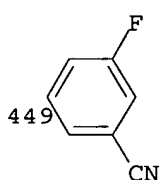
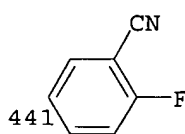
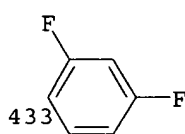
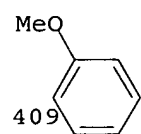
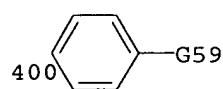
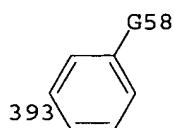
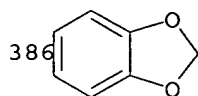
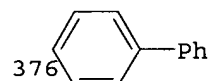
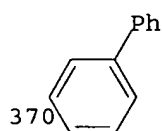
G54 = H / NH<sub>2</sub>  
 G55 = OMe / 332 / CH<sub>2</sub>CH<sub>2</sub>Ph

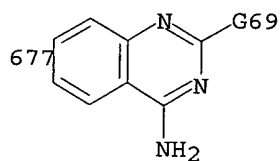
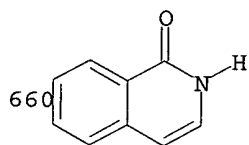
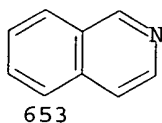
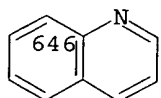
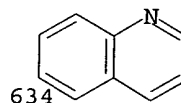
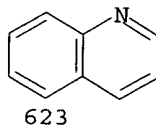
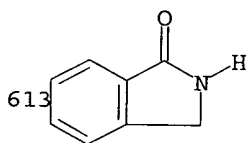
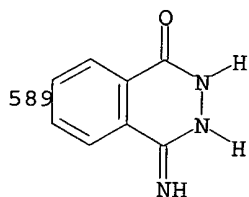
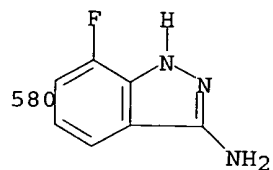
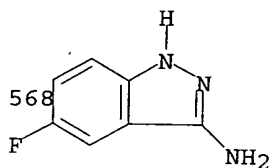
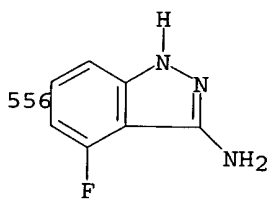
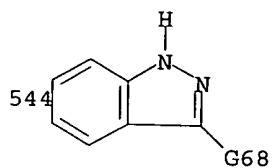
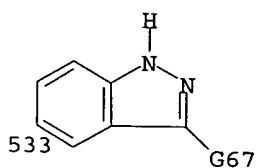
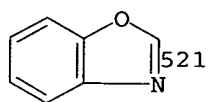
H<sub>2</sub>C—OPh  
 332

G56 = CO<sub>2</sub>Me / 356 / CONHMe / 361 / Ph / CH<sub>2</sub>CH<sub>2</sub>Ph /  
 CH=CHPh / 370 / 376 / 386 / naphthyl / 393 / 400 / 409 /  
 433 / 441 / 449 / 457 / 466 / 2-thiazolyl / 477 / 486 / 491 /  
 499 / pyridyl / 508 / 511 / 521 / 533 / 544 / 556 / 568 /  
 580 / 589 / 613 / 623 / 634 / 646 / 653 / 660 / 677

C(O)NH—CH<sub>2</sub>—C(O)—G57  
 356

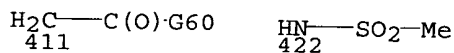
C(O)NH—CH<sub>2</sub>—Ph  
 361



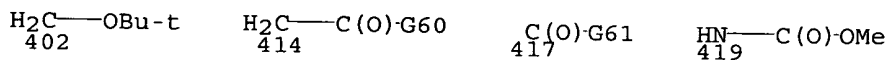


G57 = OH / OEt

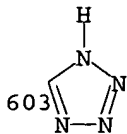
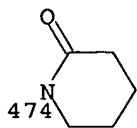
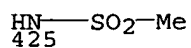
G58 = NH<sub>2</sub> / NMe<sub>2</sub> / CN / F / Cl / Br / OH / OMe / CF<sub>3</sub> /  
CO<sub>2</sub>H / CO<sub>2</sub>Me / CH<sub>2</sub>CO<sub>2</sub>H / 411 / CONH<sub>2</sub> / NHCOMe / 422



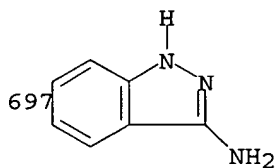
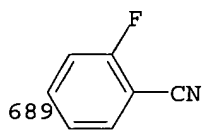
G59 = OPh / OCH<sub>2</sub>Ph / 402 / SO<sub>2</sub>Me / CN / F / Cl / Br / OH /  
OMe / CF<sub>3</sub> / CO<sub>2</sub>H / CO<sub>2</sub>Me / CH<sub>2</sub>CO<sub>2</sub>H / 414 / CONH<sub>2</sub> / 417 /  
C(NH)NH<sub>2</sub> / NHCOMe / 419 / SO<sub>2</sub>NH<sub>2</sub> / 425 / 474 / 603



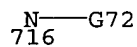




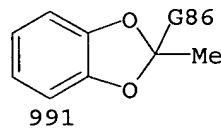
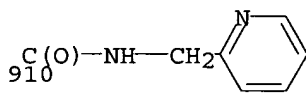
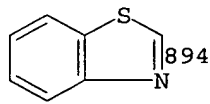
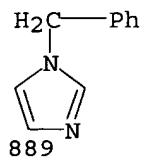
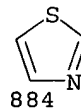
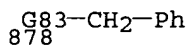
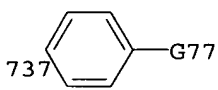
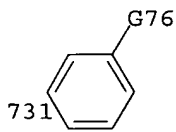
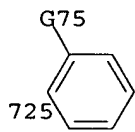
G60 = OMe / OEt / NH<sub>2</sub>  
 G61 = NHMe / NMe<sub>2</sub>  
 G62 = CO<sub>2</sub>H / NMe<sub>2</sub>  
 G63 = F / Ph  
 G64 = OMe / NH<sub>2</sub>  
 G65 = NH<sub>2</sub> / OH  
 G66 = H / Me  
 G67 = H / NH<sub>2</sub> / OH  
 G68 = H / OH  
 G69 = H / NH<sub>2</sub>  
 G70 = H / Me / Br / Cl / CF<sub>3</sub> / CO<sub>2</sub>H / CO<sub>2</sub>Me / CO<sub>2</sub>Et / Ph /  
       689 / 697



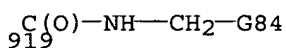
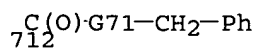
G71 = NH / 716



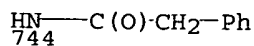
G72 = CH<sub>2</sub>Ph / Me  
 G73 = cyclohexyl / Ph / 725 / 731 / 737 / 878 / naphthyl /  
       884 / pyridyl / 889 / 894 / 910 / 991



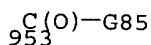
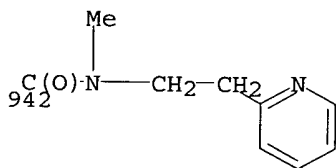
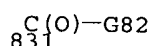
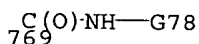
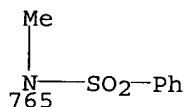
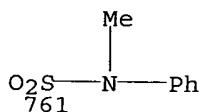
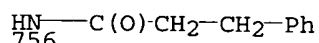
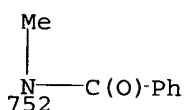
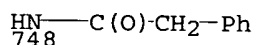
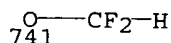
G74 = 712 / Ph / 919



G75 = Me / F / Cl / Br / NH<sub>2</sub> / NO<sub>2</sub> / OCF<sub>3</sub> / OPh / OCH<sub>2</sub>Ph /  
NHCOPh / 744 / NHSO<sub>2</sub>Ph / Ph

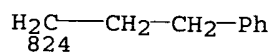
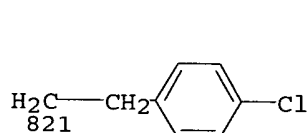
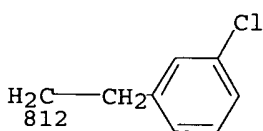
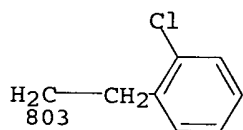
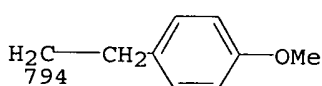
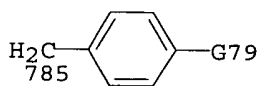
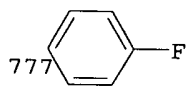


G76 = Me / F / Cl / Br / CF<sub>3</sub> / NH<sub>2</sub> / NO<sub>2</sub> / OMe / 741 /  
OCF<sub>3</sub> / OPh / OCH<sub>2</sub>Ph / CO<sub>2</sub>H / CO<sub>2</sub>Me / NHCOMe / 748 / 752 /  
756 / NHSO<sub>2</sub>Ph / 761 / 765 / 769 / 831 / Ph / CH<sub>2</sub>CH<sub>2</sub>Ph / 942 /  
953



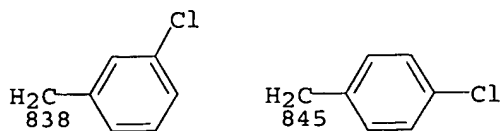
G77 = Me / F / Cl / Br / CF<sub>3</sub> / NO<sub>2</sub> / OMe / OCH<sub>2</sub>Ph / COPh /  
Ph

G78 = Bu-i / Bu-t / CH<sub>2</sub>CH<sub>2</sub>CHMe<sub>2</sub> / tolyl / 777 /  
1-naphthyl / CH<sub>2</sub>Ph / 785 / CH<sub>2</sub>CH<sub>2</sub>Ph / 794 / 803 / 812 / 821 /  
824

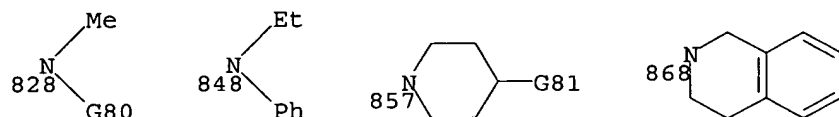


G79 = Cl / OMe

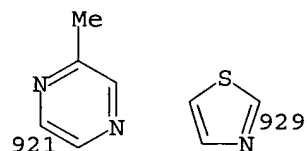
G80 = Me / Et / Pr-i / Bu-i / Ph / m-C6H4Me / p-C6H4Me /  
CH2Ph / 838 / 845 / CH2CH2Ph



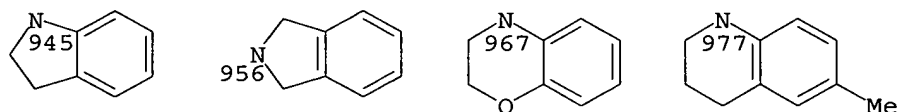
G81 = H / Ph  
G82 = 828 / 848 / 857 / 868



G83 = O / S  
G84 = 2-pyridyl / 921 / 929 / cyclopropyl

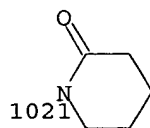


G85 = 945 / 956 / 967 / 977



G86 = Me / CH2CH2Ph  
G87 = (1-3) G88 / H / alkyl <containing 1-4 C>  
G88 = F / Cl / Br / Me / CN / OH / NH2 / OMe / OBu-t /  
OCH2Ph / CF3 / CO2H / CO2Me / 1011 / NHCOMe / CONH2 /  
CH2CONH2 / 1014 / C(NH)NH2 / NH2 (opt. substd.) / SO2NH2 /  
SO2NH2 / Ph / 1021

H2C—C(O)·G89 1011  
C(O)·G90 1014



G89 = OH / OMe / OEt  
G90 = NHMe / NMe2

Patent location:

Note:

Note:

Note:

claim 1

or tautomers, pharmaceutically acceptable salts or  
solvates

additional substitution and oxo formation also  
claimed

substitution is restricted

Stereochemistry: or stereoisomers

L71 ANSWER 10 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 143:326218 MARPAT  
 TITLE: Preparation of fluorenone 1,4-dihydropyridine  
 derivatives for use as cardiovascular agents  
 INVENTOR(S): Ergueden, Jens-Kerim; Kolkhof, Peter; Sandner, Peter;  
 Kuhl, Alexander; Stasch, Johannes-Peter; Pook,  
 Elisabeth; Schlemmer, Karl-Heinz  
 PATENT ASSIGNEE(S): Bayer Healthcare A.-G., Germany  
 SOURCE: PCT Int. Appl., 67 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005087740	A1	20050922	WO 2005-EP2129	20050301
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

DE 102004012365 A1 20050929 DE 2004-10200401236520040313  
 PRIORITY APPLN. INFO.: DE 2004-10200401236520040313  
 AB The invention relates to substituted dihydropyridines I [R1 = Ra, Rb, Rc;  
 R2 = CN, (un)substituted 5- to 7-membered heterocycle, 5- to 10-membered  
 heteroaryl, C(:O)R7; R3, R4 = NH2, CF3, Me, Et, (C1-3-alkyl)-OCH2Z,  
 (C1-3-alkyl)-SCH2Z; R5 = (un)substituted C1-6-alkyl, C3-7-cycloalkyl,  
 OR10; R6 = H, halogen; R7 = 5- to 7-membered heterocycle, 5- to  
 10-membered heteroaryl, NR8R9; R8 = H, C1-6-alkyl; R9, R10 = C1-6-alkyl,  
 C3-7-cycloalkyl, C6-10-aryl, 5- to 7-membered heterocycle, 5- to  
 10-membered heteroaryl], and their salts, solvates or solvate salts, and  
 methods for the production and use thereof in the treatment and/or prophylaxis  
 of diseases, in addition to the use thereof in the production of medicaments

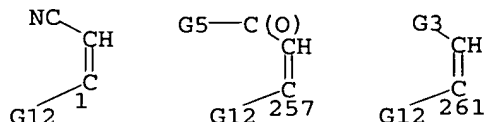
for the treatment and/or prophylaxis of diseases, particularly cardiovascular  
 diseases. The procedure for the preparation of, comprises: (A) a one-pot  
 reaction of R1CHO with R2CH:CR3NH2 (R2 and R3 = cis) and  
 R5C(:O)CH2C(:O)R4; or (B) a two stage reaction of R1CHO with  
 R5C(:O)CH2C(:O)R4 in the first stage and R2CH:CR3NH2 (R2 and R3 = cis) in  
 the second stage; or (C) reaction of R1CHO with R2CH:CR3ONa (R2 and R3 =  
 cis) and H2NCR4:CHC(:O)R5 [R4 and C(:O)R5 = cis]. Thus, (-)-I [R1 = Ra,  
 R2 = CN, R3 = R4 = Me, R5 = OCHMe2] was prepared from Me  
 9-oxo-9H-fluorene-4-carboxylate via reduction with RED-Al, cyclocondensation  
 with MeC(NH2):CHCN and MeC(:O)CH2CO2CHMe2 and chromatog. resolution The  
 cardiovascular activity of (-)-I [R1 = Ra, R2 = CN, R3 = R4 = Me, R5 =  
 OCHMe2] was determined [IC50 = 15 nM vs. mineralocorticoid receptor].

MSTR 3

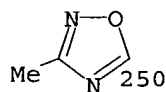
G1—G2

G1 = NH<sub>2</sub> / 255
 $\begin{array}{c} \text{OH} \\ \text{255} \end{array} \bullet \text{Na}$ 

G2 = 1 / 257 / 261

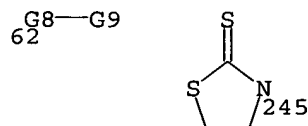


G3 = heterocycle <containing 5-7 atoms, zero or more N, zero or more O, zero or more S> (opt. substd. by (1-3) G4) / heteroaryl <containing up to 10 atoms, 1-5 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), mono- or bicyclic> (opt. substd. by (1-3) G4) / (Specifically claimed: oxadiazolyl / thiadiazolyl / triazolyl / thiazolyl / oxazolyl / imidazolyl / thienyl / furyl / pyrrolyl / benzothiazolyl / benzoxazolyl) / (Example: 250)



G4 = F / Cl / Br / I / CF<sub>3</sub> / CN / OH / NH<sub>2</sub> / CO<sub>2</sub>H / CONH<sub>2</sub> / alkyl <containing 1-6 C> / alkoxy <containing 1-6 C> / alkylamino <containing 1-6 C> / dialkylamino <each alkyl containing 1-6 C> / alkoxy carbonyl <containing 1-6 C> / alkylaminocarbonyl <containing 1-6 C> / dialkylaminocarbonyl <each alkyl containing 1-6 C>

G5 = heterocycle <containing 5-7 atoms, zero or more N, zero or more O, zero or more S> (opt. substd. by (1-3) G4) / heteroaryl <containing up to 10 atoms, 1-5 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), mono- or bicyclic> (opt. substd. by (1-3) G4) / 62 / (Specifically claimed: oxadiazolyl / thiadiazolyl / triazolyl / thiazolyl / oxazolyl / imidazolyl / thienyl / furyl / pyrrolyl / benzothiazolyl / benzoxazolyl) / (Example: 245)



G8 = NH / 64

N—G10  
64

- G9 = alkyl <containing 1-6 C> (opt. substd. by G11) /  
cycloalkyl <containing 3-7 C> (opt. substd. by (1-3) G4) /  
aryl <containing 6-10 C> (opt. substd. by (1-3) G4) /  
heterocycle <containing 5-7 atoms, zero or more N,  
zero or more O, zero or more S> (opt. substd. by (1-3) G4) /  
**heteroaryl <containing up to 10 atoms, 1-5 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), mono- or bicyclic>  
(opt. substd. by (1-3) G4)**
- G10 = alkyl <containing 1-6 C>
- G11 = cycloalkyl <containing 3-7 C>  
(opt. substd. by (1-3) G4) / aryl <containing 6-10 C>  
(opt. substd. by (1-3) G4) / heterocycle <containing 5-7  
atoms, zero or more N, zero or more O, zero or more S>  
(opt. substd. by (1-3) G4) / heteroaryl <containing up to 10  
atoms, 1-5 heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms), mono- or bicyclic>  
(opt. substd. by (1-3) G4)
- G12 = **NH2** / CF3 / Me / Et / 67

H<sub>2</sub>C—G14—G13  
67

G13 = alkyl <containing 1-3 C>

G14 = O / S

Patent location:

claim 4

Note:

oxo and thioxo substitution also claimed

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 11 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 143:266810 MARPAT

TITLE: Preparation of cyclopenta[c]pyrrolylamine derivatives  
as modulators of chemokine receptors

INVENTOR(S): Batt, Douglas G.; Carter, Percy H.

PATENT ASSIGNEE(S): Bristol-Myers Squibb Company, USA

SOURCE: PCT Int. Appl., 149 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005079496	A2	20050901	WO 2005-US5245	20050218
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,				

AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,  
 EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,  
 RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,  
 MR, NE, SN, TD, TG

US 2005227960 A1 20051013

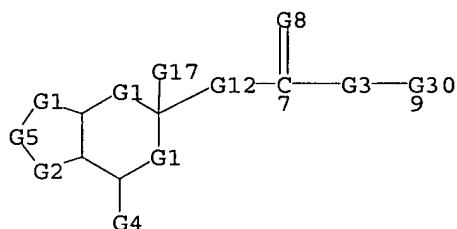
US 2005-60250 20050217

PRIORITY APPLN. INFO.:

US 2004-545921P 20040219

AB Title compds. represented by the formula I [wherein X = O or S; Z = a bond, C(O), (un)substituted amino, etc.; R1 = H, (un)substituted alkyl, alkenyl, (hetero)aryl, etc.; R2 = (un)substituted (hetero)aryl; R3 = H, Me or Et; R4 = absent, H, alkyl, etc.; R5 = H, alkyl, alkenyl, etc.; R10, R10a = independently H or (un)substituted alkyl; R12 = H or alkyl; m = 0 or 1; n = 0-3; p = 0 or 1; q = 1-3; with the proviso; and their stereoisomers or pharmaceutically acceptable salts thereof] were prepared as chemokine receptor (CCR) modulators. For example, II was given in a multi-step synthesis starting from 5-oxooctahydrocyclopenta[c]pyrrole-2-carboxylic acid tert-Bu ester. The assays of the modulators of chemokine receptor activity, such as antagonism of MCP-1 binding to human PBMC and antagonism of MCP-1-induced calcium influx, were described. Thus, I and their pharmaceutical compns. are useful as chemokine receptor modulators, especially CCR2 modulators, for the treatment of CCR-2 mediated inflammatory diseases or disorders (no data).

## MSTR 1



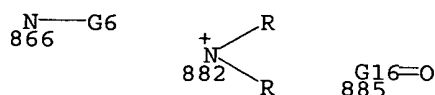
G1 = bond / CH2  
 G2 = (1-2) CH2  
 G3 = 8-7 582-9 / alkylene <containing 1 or more C>  
 (opt. substd.) / G29 / cycloalkylene <containing 3-6 C>

G2—G22  
 8 582

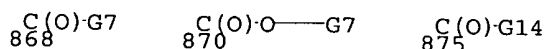
G4 = H / R / alkyl <containing 1-6 C> (opt. substd.) /  
 alkenyl <containing 2-6 C> (opt. substd.) /  
 alkynyl <containing 2-6 C> (opt. substd.) /  
 aryl <containing 6-10 C> (opt. substd.) /  
 heteroaryl <containing up to 10 atoms, 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.) /  
 (Specifically claimed: Pr-n / 888)

H2C—G21  
 888

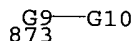
G5 = 866 / 882 / 885



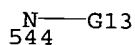
G6 = H / alkyl <containing 1-6 C> (opt. substd.) / 868 / 870 / 875 / carbocycle <containing 3-10 C> (opt. substd.) / heterocycle <containing 5-10 atoms, 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms)> (opt. substd.) / R / (Specifically claimed: Pr-i)



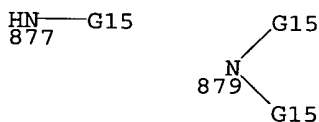
G7 = alkyl <containing 1-6 C> (opt. substd.) / alkenyl <containing 3-8 C> (opt. substd.) / alkynyl <containing 3-8 C> (opt. substd.) / carbocycle <containing 3-6 C> (opt. substd.) / heterocycle <containing 5-6 atoms, 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms)> (opt. substd.) / 873



G8 = O / S  
 G9 = alkylene <containing 1 or more C> (opt. substd.) / G11  
 G10 = carbocycle <containing 3-6 C> (opt. substd.) / heterocycle <containing 5-6 atoms, 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms)> (opt. substd.)  
 G11 = (1-4) CH<sub>2</sub>  
 G12 = NH / 544



G13 = Me / Et  
 G14 = NH<sub>2</sub> / 877 / 879 / heterocycle <containing 3-8 atoms, 1-2 heteroatoms, 1 or more N, zero or more O, zero or more S (no other heteroatoms), attached through 1 N>



G15 = alkyl <containing 1-6 C> / cycloalkyl <containing 3-6 C>  
 G16 = NH (opt. substd.)  
 G17 = H / alkyl <containing 1-4 C>  
 G19 = NH / 546



$\text{N}-\text{G20}$   
546

G20 = alkyl <containing 1-4 C> /  
cycloalkyl <containing 3-4 C>  
G21 = OMe / SO<sub>2</sub>Ph / 890

$\text{O}_2\text{S}-\text{Pr-i}$   
890

G22 = 12-8 13-9 / 584-8 583-9 / NH / 585 / C(O) / O /  
S / S(O) / SO<sub>2</sub> / CH=CH / 941-8 942-9 / 943-8 944-9 /  
945-8 947-9 / 948-8 949-9 / 950-8 951-9 / 952-8 954-9 /  
955-8 957-9

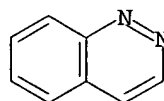
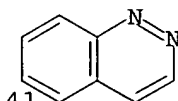
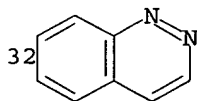
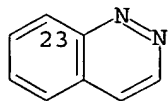
$\text{C}(\text{O})-\text{G19}$      $\text{G19}-\text{C}(\text{O})$      $\text{N}-\text{G20}$      $\text{H}_2\text{C}-\text{G24}$      $\text{G24}-\text{CH}_2$   
12 13    584 583    585    941 942    943 944

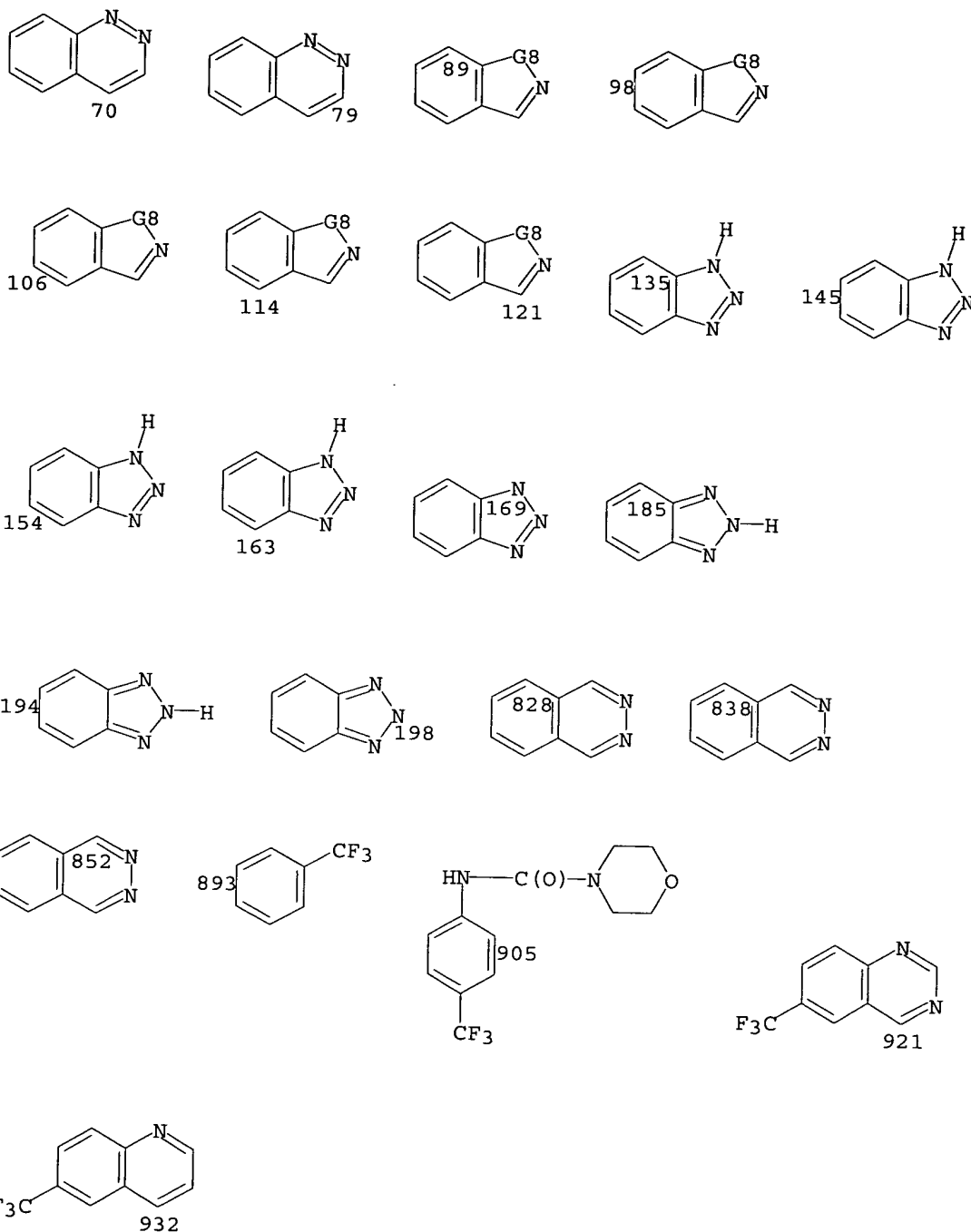
$\text{G25}-\text{G26}-\text{G25}$      $\text{G25}-\text{G23}$      $\text{G23}-\text{G25}$      $\text{O}-\text{C}(\text{O})-\text{G25}$      $\text{G25}-\text{C}(\text{O})-\text{O}$   
945 947    948 949    950 951    952 954    955 957

G23 = S / S(O) / SO<sub>2</sub>  
G24 = C(O) / O / NH (opt. substd.) / S / S(O) / SO<sub>2</sub> / 958

$\text{C}=\text{N}-\text{G27}$   
958

G25 = NH (opt. substd.)  
G26 = C(O) / SO<sub>2</sub> / C(S)  
G27 = OH (opt. substd.)  
G29 = (1-5) CH<sub>2</sub>  
G30 = aryl <containing 6-10 C> (opt. substd.) /  
heteroaryl <containing up to 10 atoms, 1-4 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.) /  
(Specifically claimed: Ph / naphthyl / benzimidazolyl /  
benzofuranyl / benzothienyl / benzoxazolyl / benzothiazolyl /  
135 / 145 / 154 / 163 / 169 / 185 / 194 / 198 / 89 / 98 /  
106 / 114 / 121 / 23 / 32 / 41 / 56 / 70 / 79 / furyl /  
imidazolyl / indazolyl / indolyl / isoquinolinyl /  
isothiazolyl / isoxazolyl / oxazolyl / pyrazinyl /  
pyrazolyl / pyridazinyl / pyridyl / pyrimidinyl / pyrrolyl /  
quinazolinyl / quinolinyl / thiazolyl / thienyl /  
tetrazolyl / 828 / 838 / 852) / (Examples: 893 / 905 / 921 /  
932)





Patent location:

Note:

Note:

Note:

Stereochemistry:

claim 1

or pharmaceutically acceptable salts

additional ring formation and substitution also

claimed

substitution is restricted

or stereoisomers

L71 ANSWER 12 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

searched by D. Arnold 571-272-2532

Page 268

ACCESSION NUMBER: 143:43887 MARPAT  
 TITLE: Preparation of benzoxazine compounds as antithrombotic agents  
 INVENTOR(S): Kikelj, Danijel; Stefanic Anderluh, Petra; Mravljak, Janez; Sollner Dolenc, Marija; Anderluh, Marko; Stegnar, Mojca; Prezelj, Andrej; Pecar, Slavko  
 PATENT ASSIGNEE(S): University of Ljubljana, Slovenia; LEK Pharmaceuticals D. D.  
 SOURCE: PCT Int. Appl., 61 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005051934	A1	20050609	WO 2004-SI40	20041126

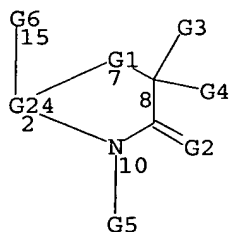
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SI 21658	C	20050630	SI 2003-287	20031128
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PRIORITY APPLN. INFO.: SI 2003-287 20031128

AB Title compds. I [A = O, S, NH, etc.; B = C:O, C:S; R1 = H, alkyl, benzyl, etc.; R2 = H, CO2R, CONHR, etc.; R = H, alkyl, benzyl; R3 = H, alkyl, benzyl, etc.; R4 = H, Q-CH(R7)-CO2R, Q-CH(R7)-CH2CO2R, etc. bound at position 6 or 7 of the bicyclic; Q = II, etc.; R54 = -C(:NR1)NH2, -NHC(:NR1)NH2; R7 = H, alkyl, cycloalkyl, etc.] and their pharmaceutically acceptable salts were prepared. For example, hydrolysis of compound III [Y1 = OEt; Y2 = IV], e.g., prepared from 2-amino-5-nitrophenol in 9 steps, followed by Pd/C-catalyzed hydrogenolysis in acetic acid afforded compound III [Y1 = OH; Y2 = -C(:NH)NH2]·acetic acid. In fibrinogen receptor binding assays, the IC50 value of compound III [Y1 = OH; Y2 = -C(:NH)NH2]·acetic acid was 0.206 μM. Compounds I are claimed useful for the treatment of platelet aggregation thrombosis, etc.

# MSTR 1



G1 = O / S / NH / CH2

G2 = O / S

G3 = H / alkyl <containing 1-4 C> / CH2Ph / OH /

alkoxy <containing 1-4 C> / OCH<sub>2</sub>Ph / 393
$$\begin{array}{c} \text{H} \\ 393 \end{array} \quad \text{G39}$$

$$\text{G4} = \text{H} / \text{CO}_2\text{H} / 17 / \text{CONH}_2 / 20 / 72$$

$$\begin{array}{ccc} \text{C(O)}-\text{G8}-\text{G7} & \text{G9}-\text{G15} & \text{G18}-\text{G19} \\ 17 & 20 \quad 21 & 72 \end{array}$$

$$\text{G5} = \text{H} / \text{alkyl} \text{ <containing 1-4 C> } / \text{CH}_2\text{Ph} / \text{OH} / \text{CHO} /$$

$$126 / 146 / 235 / (\text{Specifically claimed: Me})$$

$$\begin{array}{ccc} \text{C(O)}-\text{G7} & \text{G20}-\text{G16} & \text{G22}-\text{G19} \\ 126 & 146 \quad 147 & 235 \quad 236 \end{array}$$

$$\text{G6} = \text{H} / 265 / 301 / 314 / 379$$

$$\begin{array}{ccc} \text{G18}-\text{G33}-\text{G35} & \text{G33}-\text{G12}-\text{G35} & \text{G36}-\text{G37} \quad \text{G18}-\text{G19} \\ 265 & 301 & 314 \quad 315 \quad 379 \end{array}$$

$$\text{G7} = \text{alkyl} \text{ <containing 1-4 C> } / \text{CH}_2\text{Ph} /$$

$$(\text{Specifically claimed: Me} / \text{Et})$$

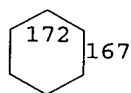
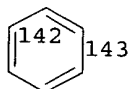
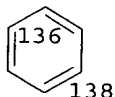
$$\text{G8} = \text{O} / \text{NH}$$

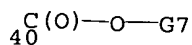
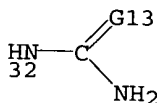
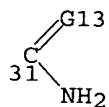
$$\text{G9} = 23-8 \quad 24-21 \quad / \quad 26-8 \quad 25-21 \quad / \quad 27-8 \quad 28-21 \quad /$$

$$30-8 \quad 29-21$$

$$\begin{array}{cccc} \text{G12}-\text{NH} & \text{HN}-\text{G12} & \text{O}-\text{CH}_2 & \text{H}_2\text{C}-\text{O} \\ 23 \quad 24 & 26 \quad 25 & 27 \quad 28 & 30 \quad 29 \end{array}$$

$$\text{G10} = 130-20 \quad 133-43 \quad / \quad 136-20 \quad 138-43 \quad / \quad 142-20 \quad 143-43 \quad /$$

$$160-20 \quad 157-43 \quad / \quad 166-20 \quad 162-43 \quad / \quad 172-20 \quad 167-43$$


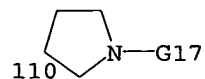
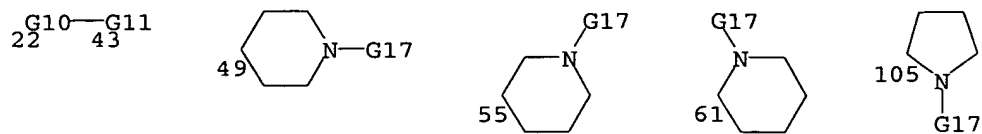
$$\text{G11} = 31 / 32 / \text{CO}_2\text{H} / 40$$


$$\text{G12} = \text{C(O)} / \text{CH}_2$$

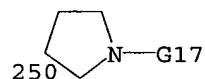
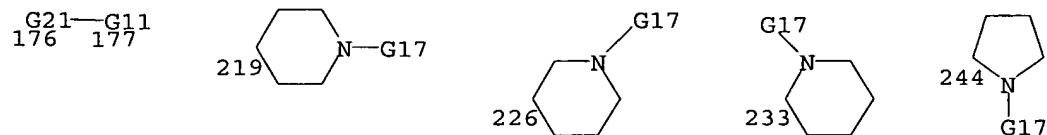
$$\text{G13} = \text{NH} / 35$$

$$\begin{array}{c} \text{N} \\ 35 \end{array} - \text{G14}$$

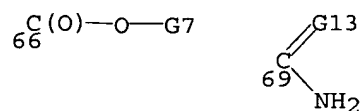
G14 = alkyl <containing 1-4 C> / CH<sub>2</sub>Ph / OH /  
alkoxy <containing 1-4 C> / OCH<sub>2</sub>Ph  
G15 = 22 / 49 / 55 / 61 / 105 / 110



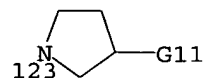
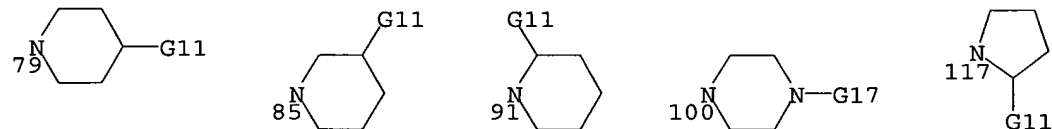
G16 = 176 / 219 / 226 / 233 / 244 / 250



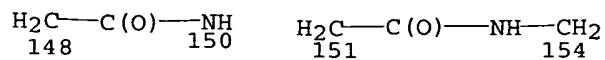
G17 = H / alkyl <containing 1-4 C> / CH<sub>2</sub>Ph / CO<sub>2</sub>H / 66 /  
69



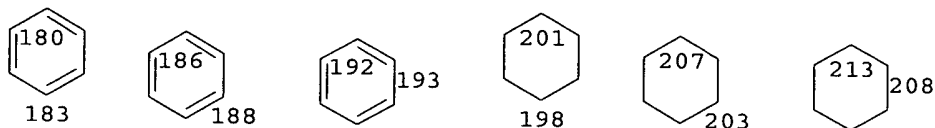
G18 = C(O) / CH<sub>2</sub>  
G19 = 79 / 85 / 91 / 100 / 117 / 123



G20 = C(O) / CH<sub>2</sub> / 148-10 150-147 / 151-10 154-147



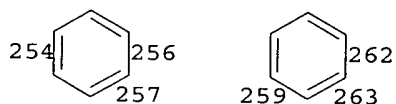
G21 = 180-146 183-177 / 186-146 188-177 /  
 192-146 193-177 / 201-146 198-177 / 207-146 203-177 /  
 213-146 208-177



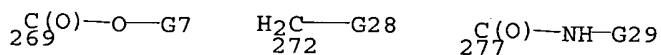
G22 = G23 / 237-10 238-236 / 240-10 239-236



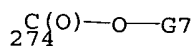
G23 = (1-4) CH<sub>2</sub>  
 G24 = 256-7 257-10 254-15 / 262-7 263-10 259-15



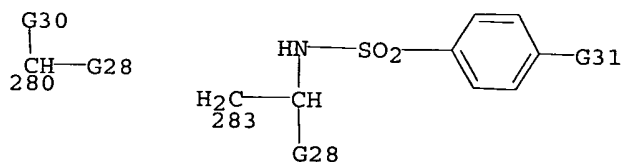
G25 = H / cycloalkyl <containing 4-6 C> / Ph  
 G26 = alkyl <containing 1-4 C> / CH<sub>2</sub>Ph  
 G27 = CO<sub>2</sub>H / 269 / 272 / 277



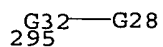
G28 = CO<sub>2</sub>H / 274



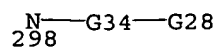
G29 = 280 / 283



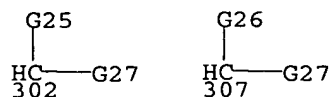
G30 = H / alkyl <containing 1-4 C> / CH<sub>2</sub>Ph / 295



G31 = H / alkyl <containing 1-4 C> / CH<sub>2</sub>Ph  
 G32 = CH<sub>2</sub> / CH<sub>2</sub>CH<sub>2</sub>  
 G33 = NH / 298



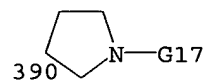
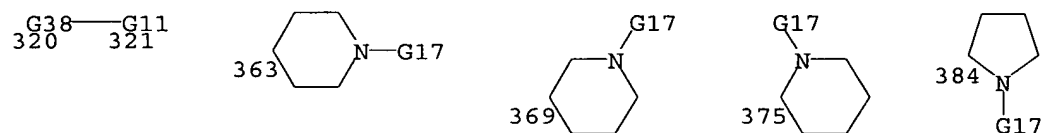
G34 = (0-4) CH<sub>2</sub>  
 G35 = 302 / 307



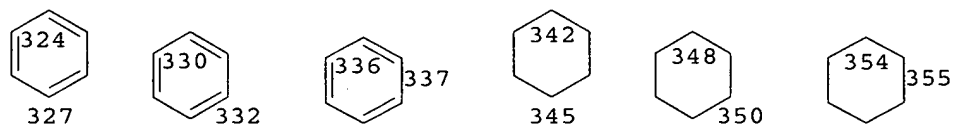
G36 = 316-2 317-315 / 319-2 318-315



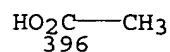
G37 = 320 / 363 / 369 / 375 / 384 / 390



G38 = 324-314 327-321 / 330-314 332-321 /  
 336-314 337-321 / 342-314 345-321 / 348-314 350-321 /  
 354-314 355-321



G39 = R <"pharmaceutically acceptable salts"> /  
 (Specifically claimed: 396)



Patent location:

claim 1

Note:

substitution is restricted

Note:

and enantiomers, mixture of enantiomers,

diastereomers, and mixture of diastereomers

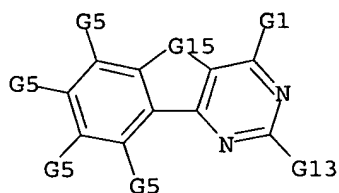
REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 13 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 142:463744 MARPAT  
 TITLE: Preparation of arylindenopyridines and arylindenopyrimidines and their use as adenosine A2a receptor antagonists  
 INVENTOR(S): Heintzelman, Geoffrey R.; Bullington, James L.; Rupert, Kenneth C.  
 PATENT ASSIGNEE(S): Ortho-Mcneil Pharmaceutical, Inc., USA  
 SOURCE: PCT Int. Appl., 53 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 5  
 PATENT INFORMATION:

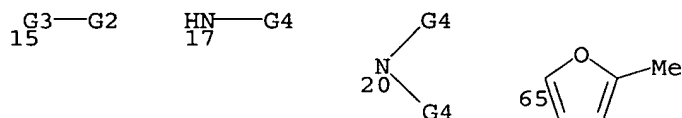
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005042500	A1	20050512	WO 2003-US31471	20031003
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CN 1516698	A	20040728	CN 2002-811974	20020416
CA 2540686	AA	20050512	CA 2003-2540686	20031003
AU 2003275430	A1	20050519	AU 2003-275430	20031003
EP 1673354	A1	20060628	EP 2003-759708	20031003
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
PRIORITY APPLN. INFO.:			US 2001-284465P	20010418
			WO 2003-US31471	20031003
AB The title compds. I or II [R1 = COR5, CO2R5 (wherein R5 = H, alkyl, aryl, arylalkyl), CN, etc.; R2 = alkyl, aryl, heteroaryl, etc.; R3 = H, halo, alkyl, etc.; R4 = H, alkyl, benzyl, etc.; X = C(S), C(O), CH2, CH(OH), etc.; with the proviso that in II when R1 = CN, then R2 is not Ph], useful for treating disorders ameliorated by antagonizing adenosine A2a receptors, were prepared Nineteen examples describe preparation of compds. I and				
II, and their intermediates. Over 90 compds. I and II were prepared Compound I [R2 = 2-furyl; R3 = H; R4 = NH2; X = C(O)] showed 90% inhibition of haloperidol-induced catalepsy when orally dosed at 10 mg/kg. This invention also provides therapeutic and prophylactic methods using the instant compds. and pharmaceutical compns.				

MSTR 1

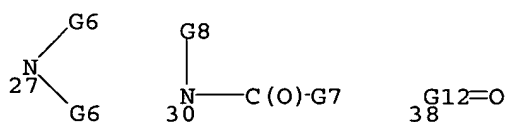




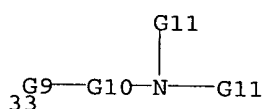
G1 = alkyl <containing 1-20 C> (opt. substd.) /  
 aryl (opt. substd.) / heteroaryl <containing up to 10 atoms,  
 up to 3 heteroatoms, zero or more S, zero or more O,  
 zero or more N (no other heteroatoms)> (opt. substd.) /  
 heterocycle <containing zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.) /  
 cycloalkyl <containing 3-7 C> (opt. substd.) / 15 / NH2 /  
 17 / 20 / heterocycle <containing 1 or more N,  
 attached through 1 or more N> (opt. substd.) /  
 (Specifically claimed: 2-furyl / Ph / 2-thienyl / 65) /  
 (Example: furyl (opt. substd.))



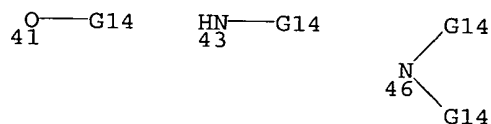
G2 = alkyl <containing 1-8 C> (opt. substd.) /  
 aryl (opt. substd.)  
 G3 = O / SO2 / S  
 G4 = alkyl <containing 1-8 C> / aralkyl (opt. substd.) /  
 cycloalkyl <containing 3-7 C> / alkyl (substd. by CO2H) /  
 aryl (opt. substd.) / heteroaryl <containing up to 10 atoms,  
 up to 3 heteroatoms, zero or more S, zero or more O,  
 zero or more N (no other heteroatoms)> (opt. substd.) /  
 heterocycle <containing zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.)  
 G5 = H / F / Cl / Br / I / alkyl <containing 1-8 C> /  
 aralkyl (opt. substd.) / cycloalkyl <containing 3-7 C> /  
 alkoxy <containing 1-8 C> / CN /  
 alkoxycarbonyl <containing 1-4 C> / CF3 /  
 alkylsulfonyl <containing 1-8 C> / NO2 / OH / OCF3 /  
 alkylcarbonyloxy <containing 1-8 C> / aryl (opt. substd.) /  
 heteroaryl <containing up to 10 atoms, up to 3 heteroatoms,  
 zero or more S, zero or more O,  
 zero or more N (no other heteroatoms)> (opt. substd.) /  
 heterocycle <containing zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.) / 27 /  
 heterocycle <containing 1 or more N,  
 attached through 1 or more N> (opt. substd.) / 30 / 38 /  
 (Examples: alkyl <containing 1-20 C> (substd. by OH) /  
 alkyl <containing 1-20 C> (substd. by NH2))



- G6 = H / alkyl <containing 1-8 C> /  
 aralkyl (opt. substd.) / cycloalkyl <containing 3-7 C> /  
 alkyl (substd. by CO2H) / aryl (opt. substd.) /  
 heteroaryl <containing up to 10 atoms, up to 3 heteroatoms,  
 zero or more S, zero or more O,  
 zero or more N (no other heteroatoms)> (opt. substd.) /  
 heterocycle <containing zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.)
- G7 = H / alkyl <containing 1-20 C> (opt. substd.) /  
 alkoxy <containing 1-3 C> / alkyl <containing 1-20 C>  
 (substd. by CO2H) / aryl (opt. substd.) /  
 aralkyl (opt. substd.) / heteroaryl <containing up to 10  
 atoms, up to 3 heteroatoms, zero or more S, zero or more O,  
 zero or more N (no other heteroatoms)> (opt. substd.) /  
 heterocycle <containing zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.) / 33



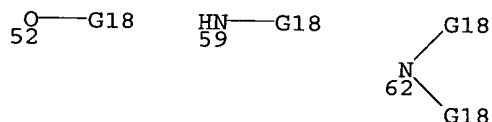
- G8 = H / alkyl <containing 1-20 C>  
 G9 = (1-9) CH2  
 G10 = bond / C(O)  
 G11 = H / OH / alkyl <containing 1-20 C> (opt. substd.) /  
 alkoxy <containing 1-20 C>  
 G12 = heterocycle <containing 1 or more N,  
 attached through 1 or more N>  
 G13 = H / alkyl <containing 1-6 C> (opt. substd.) /  
 CH2Ph (opt. substd.) / OH / 41 / NH2 / 43 / 46



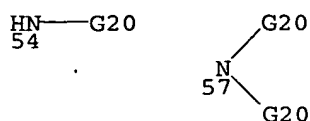
- G14 = alkyl <containing 1-6 C> (opt. substd.) /  
 aryl (opt. substd.)  
 G15 = 48 / 50



- G16 = S / O  
 G17 = H / OH / 52 / NH2 / 59 / 62



- G18 = alkyl <containing 1-8 C> (opt. substd. by G19)  
 G19 = alkoxy <containing 1-8 C> / OH / F / Cl / Br / I /  
 NH2 / CN / NH2 / 54 / 57 / heterocycle <containing 1 or more  
 N, attached through 1 or more N>



G20 = alkyl <containing 1-8 C> /  
cycloalkyl <containing 3-7 C> / CH<sub>2</sub>Ph / aryl (opt. substd.) /  
heteroaryl <containing up to 10 atoms, up to 3 heteroatoms,  
zero or more S, zero or more O,  
zero or more N (no other heteroatoms)> (opt. substd.)

Patent location: claim 1

Note: additional ring oxidation and quaternization also  
claimed

Note: or pharmaceutically acceptable salts

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 14 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 142:463707 MARPAT

TITLE: Preparation of fused quinoline derivatives as selectin  
inhibitors

INVENTOR(S): Kaila, Neelu; Debernardo, Silvano L.; Janz, Kristin  
M.; Camphausen, Raymond T.; Bedard, Patricia W.;  
Huang, Adrian

PATENT ASSIGNEE(S): Wyeth, John, and Brother Ltd., USA

SOURCE: U.S. Pat. Appl. Publ., 45 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

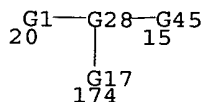
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005101569	A1	20050512	US 2004-984522	20041109
AU 2004288808	A1	20050526	AU 2004-288808	20041109
CA 2543765	AA	20050526	CA 2004-2543765	20041109
WO 2005047258	A2	20050526	WO 2004-US37441	20041109
WO 2005047258	A3	20050707		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1682510	A2	20060726	EP 2004-810640	20041109
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR, IS, YU				
PRIORITY APPLN. INFO.:			US 2003-518939P	20031110
			US 2004-542986P	20040209
			WO 2004-US37441	20041109

AB Fused quinoline derivs. such as benzo[h]quinoline, [1,9]phenanthroline, and pyrrolo[3,2-h]quinoline derivs. [wherein: W1 and W2 taken together with the atoms to which they are attached form a 5 or 6 member carbocyclic or heterocyclic ring that can be saturated, partially saturated or aromatic, and

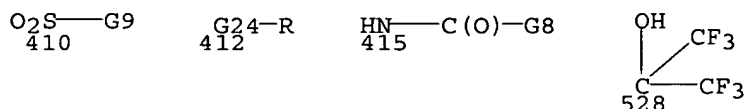
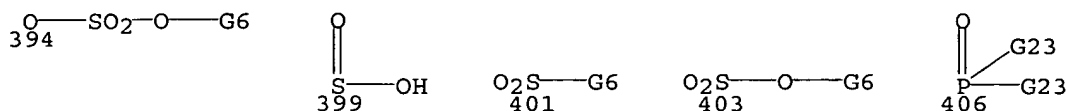
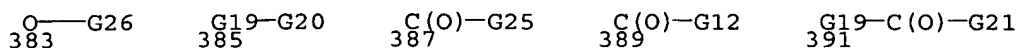
optionally substituted; L = CO<sub>2</sub>H, its ester, or a pharmaceutically acceptable acid mimetic; Y = O, (CR<sub>3</sub>R<sub>4</sub>)<sub>p</sub>, NR<sub>5</sub>; n' = 0-1; p = 1-3; X = H, OH, OR<sub>3</sub>, OC<sub>1-6</sub> alkyl, OC(:O)aryl, OC(:O)C<sub>1-6</sub> alkyl, OC(:O)OC<sub>1-6</sub> alkyl, or NR<sub>3</sub>R<sub>3</sub>'; R<sub>1</sub>, R<sub>3</sub>, R<sub>3</sub>', R<sub>4</sub> = H, halogen, cyano, HO, SH, (CH<sub>2</sub>)<sub>n</sub>OSO<sub>3</sub>H, (CH<sub>2</sub>)<sub>n</sub>SO<sub>3</sub>H, (CH<sub>2</sub>)<sub>n</sub>CO<sub>2</sub>R<sub>6</sub>, OSO<sub>3</sub>R<sub>6</sub>, SO<sub>3</sub>R<sub>6</sub>, PO<sub>3</sub>R<sub>6</sub>R<sub>7</sub>, (CH<sub>2</sub>)<sub>n</sub>SO<sub>2</sub>NR<sub>8</sub>R<sub>9</sub>, (CH<sub>2</sub>)<sub>n</sub>C(:O)NR<sub>8</sub>R<sub>9</sub>, NR<sub>8</sub>R<sub>9</sub>, NHCOR<sub>8</sub>, each (un)substituted C<sub>1-6</sub> alkyl, C<sub>1-6</sub> perhaloalkyl, OC<sub>1-6</sub> alkyl, OC<sub>1-6</sub> perhaloalkyl, thioalkyl aryl, heterocyclo, C(:O)aryl, C(:O)heterocyclo, OC(:O)aryl, OC(:O)heterocyclo, Oaryl, Oheterocyclo, arylalkyl, C(:O)arylalkyl, OC(:O)arylalkyl, or Oarylalkyl, etc.; R<sub>6</sub>, R<sub>7</sub> = H, (un)substituted C<sub>1-6</sub> alkyl; R<sub>5</sub>, R<sub>8</sub>, R<sub>9</sub> = H, OH, (CH<sub>2</sub>)<sub>l</sub>OSO<sub>3</sub>H, (CH<sub>2</sub>)<sub>l</sub>SO<sub>3</sub>R<sub>10</sub>, (CH<sub>2</sub>)<sub>n</sub>CO<sub>2</sub>R<sub>10</sub>, SO<sub>3</sub>R<sub>10</sub>, PO<sub>3</sub>R<sub>10</sub>R<sub>11</sub>, (CH<sub>2</sub>)<sub>n</sub>SO<sub>2</sub>(CH<sub>2</sub>)<sub>n</sub>NR<sub>10</sub>R<sub>11</sub>, (CH<sub>2</sub>)<sub>n</sub>CONR<sub>10</sub>R<sub>11</sub>, COR<sub>10</sub>, each (un)substituted C<sub>1-6</sub> alkyl, C<sub>1-6</sub> haloalkyl, thioalkyl, aryl, heterocyclo, or C(:O)aryl, etc.; n = 0-6; l = 1-6; R<sub>10</sub>, R<sub>11</sub> = H, (un)substituted C<sub>1-6</sub> alkyl; Z = (un)substituted aryl, arylalkyl, heteroaryl, or heterocyclo] are prepared. The present invention relates to the field of anti-inflammatory substances, and more particularly to novel compds. that act as antagonists of the mammalian adhesion proteins known as selectins. A method of inhibiting selectin-mediated intracellular adhesion associated with a disease, disorder, condition or undesired process is provided which include administration of the compound I. The selectin-mediated disease, disorder, condition or undesired process includes inflammation, infection, metastasis, an undesired immunol. process, and an undesired thrombotic process. Thus, 6.8 g (33.8 mmol) 6,7,8,9-Tetrahydro-1H-benzo[g]indole-2,3-dione was added to 60 mL 6 N KOH at 100° and stirred for 5 min to give a clear yellow brown solution of hydrolyzed isatin which was treated in small portions while stirring at 100°, a solution of 13.7 g (60.83 mmol, 1.8 equivalent) acetic acid 3-(4-chlorophenyl)-2-oxopropyl ester acetate 2 in 120 mL lukewarm ethanol over a period of 1.5 h. The clear solution was refluxed for another 1 h to give, after workup and silica gel chromatog. and acidification of the triethylamine salt with dilute HCl, 40.8% 2-(4-chlorobenzyl)-3-hydroxy-7,8,9,10-tetrahydrobenzo[h]quinoline-4-carboxylic acid. The 6 compds. I showed IC<sub>50</sub> of 100-1,250 μM for inhibiting the binding of P-LE to human P-selectin glycoprotein ligand-1 (PSGL-1).

# MSTR 1



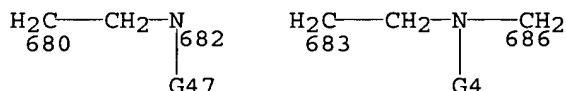
G1 = H / alkyl <containing 1-6 C> (opt. substd.) /  
cycloalkyl <containing 3-6 C> (opt. substd.) /  
alkyl <containing no H, 1-6 C> (substd. by 3 or more G40) /  
cycloalkyl <containing 3-6 C> (substd. by 5 or more G40) /  
383 / F / Cl / Br / I / alkylthio / cycloalkylthio / CN /  
OH / SH / 385 / OSO<sub>3</sub>H / SO<sub>3</sub>H / 387 / 391 / 394 / 399 /  
401 /  
403 / 406 / 410 / NH<sub>2</sub> / 412 / CHO / 389 /  
aryl (opt. substd.) / heterocycle <containing 1-3  
heteroatoms, zero or more N, zero or more O,

zero or more S (no other heteroatoms), mono- or bicyclic> (opt. substd.) / alkyl (substd. by aryl (opt. substd.)) / cycloalkyl (substd. by aryl (opt. substd.)) / alkenyl (opt. substd.) / cycloalkenyl (opt. substd.) / alkynyl (opt. substd.) / carbocycle <no double bonds, 1 or more triple bonds> (opt. substd.) / NHCHO / 415 / (Specifically claimed: 3-furyl / 3-thienyl / Ph / Me / CF<sub>3</sub> / Pr-i / Et / Bu-s / 528)

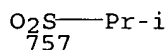


G2 = R <"group to complete a 5- or 6-membered ring"> / carbon chain <containing 3-4 C, 1-2 double bonds> (opt. substd.)

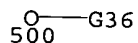
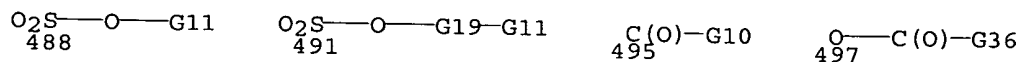
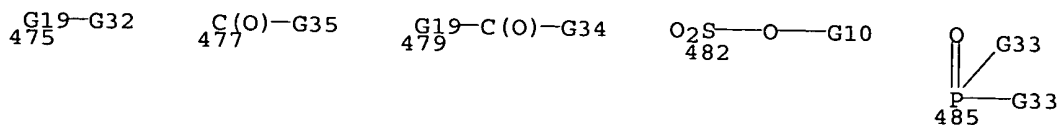
G3 = G7 / 680-536 682-541 / 683-536 686-541 / CH=CHCH=CH



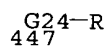
G4 = H / R / (Specifically claimed: Pr-i / CH<sub>2</sub>Ph / Et / COMe / CONH<sub>2</sub> / CPh / SO<sub>2</sub>Me / CO<sub>2</sub>Et / COCH<sub>2</sub>Ph / 757)



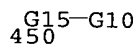
G5 = alkyl <containing 1-6 C> (opt. substd.) / cycloalkyl <containing 3-6 C> (opt. substd.) / alkyl <containing no H, 1-6 C> (substd. by 3 or more G40) / cycloalkyl <containing 3-6 C> (substd. by 5 or more G40) / alkylthio / cycloalkylthio / OH / 475 / 477 / 479 / SO<sub>3</sub>H / 482 / 485 / 488 / 491 / CHO / 495 / aryl (opt. substd.) / heterocycle <containing 1-3 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), mono- or bicyclic> (opt. substd.) / 497 / 500 / alkyl (substd. by aryl (opt. substd.)) / cycloalkyl (substd. by aryl (opt. substd.)) / alkenyl (opt. substd.) / cycloalkenyl (opt. substd.) / alkynyl (opt. substd.) / carbocycle <no double bonds, 1 or more triple bonds> (opt. substd.)



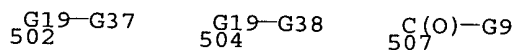
- G6 = alkyl <containing 1-6 C>  
       (opt. substd. by (1-3) G22) / cycloalkyl <containing 3-6 C>  
       (opt. substd. by (1-3) G22)  
 G7 = (3-4) CH<sub>2</sub> (opt. substd.)  
 G8 = H / R  
 G9 = NH<sub>2</sub> / 447



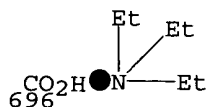
- G10 = alkyl <containing 1-6 C> (opt. substd.) /  
       cycloalkyl <containing 3-6 C> (opt. substd.)  
 G11 = NH<sub>2</sub> (opt. substd.) / 450



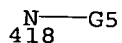
- G12 = alkyl <containing 1-6 C> (opt. substd.) /  
       alkyl <containing no H, 1-6 C> (substd. by 3 or more G40) /  
       502 / 504 / 507 / alkenyl (opt. substd.) /  
       alkynyl (opt. substd.) / alkyl (substd. by aryl (opt.  
       substd.))



- G13 = CO<sub>2</sub>H (opt. substd.) / R /  
       (Specifically claimed: 696)



- G14 = O / NH / 418



G15 = NH / 474

$\text{N} \text{---} \text{G10}$   
474

G16 = (1-3) CH<sub>2</sub>

G17 = H / OH / 420 / 422 / NH<sub>2</sub> / **424** /  
(Specifically claimed: OCOPh / 759 / OMe)

$\text{O} \text{---} \text{G1}$       $\text{O} \text{---} \text{G18}$       $\text{G31} \text{---} \text{G1}$       $\text{O} \text{---} \text{C(O)} \text{---} \text{OEt}$   
420            422            424            759

G18 = alkyl <containing 1-6 C> /  
cycloalkyl <containing 3-6 C> / 513 / 515

$\text{C(O)} \text{---} \text{G42}$       $\text{C(O)} \text{---} \text{G41}$   
513                515

G19 = (1-6) CH<sub>2</sub>

G20 = OSO<sub>3</sub>H / SO<sub>3</sub>H / 426

$\text{O}_2\text{S} \text{---} \text{G9}$   
426

G21 = OH / 428 / NH<sub>2</sub> / 430

$\text{O} \text{---} \text{G6}$       $\text{G24} \text{---} \text{R}$   
428            430

G22 = OH / CF<sub>3</sub> / SH / F / Cl / Br / I

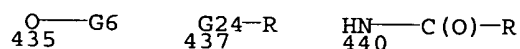
G23 = OH / 433

$\text{O} \text{---} \text{G6}$   
433

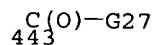
G24 = NH / 449

$\text{N} \text{---} \text{R}$   
449

G25 = OH / 435 / NH<sub>2</sub> / 437 /  
cycloalkyl <containing 3-6 C> (opt. substd.) /  
cycloalkyl <containing 3-6 C> (substd. by 5 or more G40) /  
alkoxy <containing 1-6 C> (opt. substd.) /  
cycloalkyloxy <containing 3-6 C> (opt. substd.) /  
alkylthio (opt. substd.) / cycloalkylthio (opt. substd.) /  
cycloalkenyl (opt. substd.) / carbocycle <no double bonds,  
1 or more triple bonds> (opt. substd.) / NHCHO / 440 /  
aryl (opt. substd.) / heterocycle <containing 1-3  
heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms), mono- or bicyclic>  
(opt. substd.) / cycloalkyl (substd. by aryl (opt. substd.))

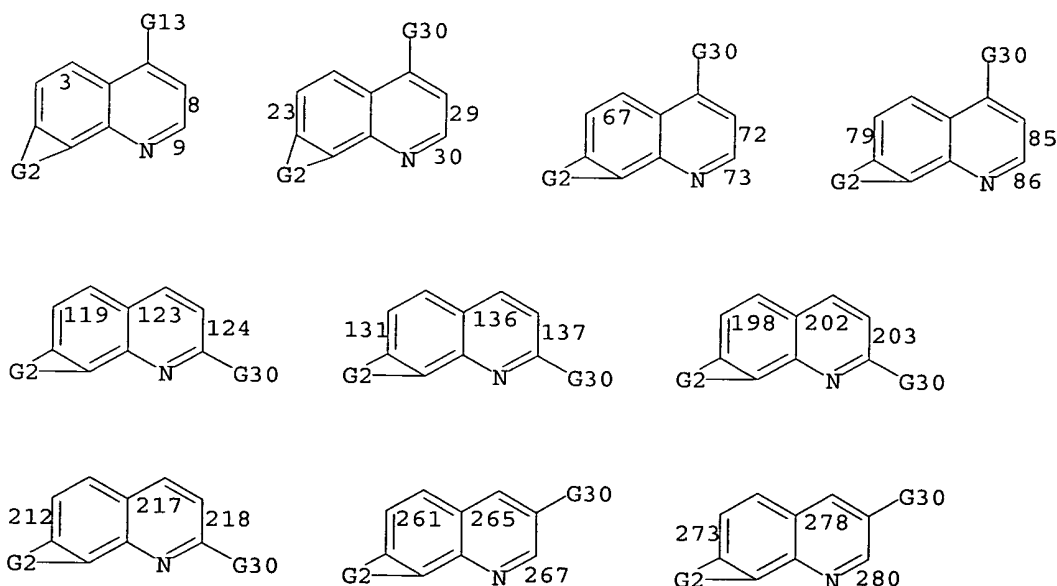


G26 = alkyl <containing 1-6 C> (opt. substd.) /  
 cycloalkyl <containing 3-6 C> (opt. substd.) /  
 alkyl <containing no H, 1-6 C> (substd. by 3 or more G40) /  
 cycloalkyl <containing 3-6 C> (substd. by 5 or more G40) /  
 443 / aryl (opt. substd.) / heterocycle <containing 1-3  
 heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), mono- or bicyclic>  
 (opt. substd.) / alkyl (substd. by aryl (opt. substd.)) /  
 cycloalkyl (substd. by aryl (opt. substd.))

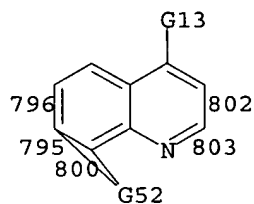
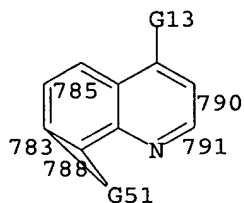
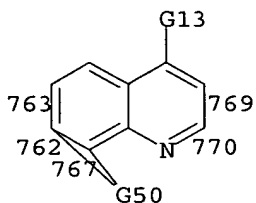
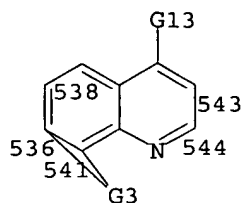
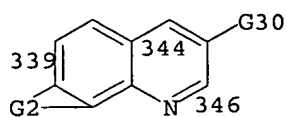
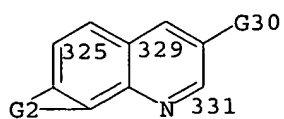


G27 = aryl (opt. substd.) / heterocycle <containing 1-3  
 heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), mono- or bicyclic>  
 (opt. substd.) / alkyl (substd. by aryl (opt. substd.)) /  
 cycloalkyl (substd. by aryl (opt. substd.))

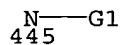
G28 = 3-20 9-15 8-174 / 23-20 30-15 29-174 /  
 67-20 72-15 73-174 / 79-20 85-15 86-174 /  
 119-20 123-15 124-174 / 131-20 136-15 137-174 /  
 198-20 203-15 202-174 / 212-20 218-15 217-174 /  
 261-20 267-15 265-174 / 273-20 280-15 278-174 /  
 325-20 331-15 329-174 / 339-20 344-15 346-174 /  
 (Specifically claimed: 538-20 543-15 544-174 /  
 763-20 769-15 770-174 / 785-20 791-15 790-174 /  
 796-20 802-15 803-174 )



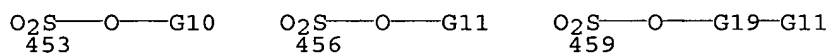




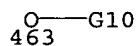
G30 = CO<sub>2</sub>H (opt. substd.) / R  
 G31 = NH / 445



G32 = OSO<sub>3</sub>H / SO<sub>3</sub>H / 453 / 456 / 459



G33 = OH / 463



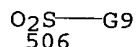
G34 = OH / 465 / NH<sub>2</sub> / 467



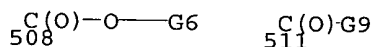
G35 = OH / 470 / NH<sub>2</sub> / 472 / aryl (opt. substd.) /  
 heterocycle <containing 1-3 heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 mono- or bicyclic> (opt. substd.) /  
 alkyl (substd. by aryl (opt. substd.)) /  
 cycloalkyl (substd. by aryl (opt. substd.))



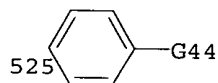
- G36 = aryl (opt. substd.) / heterocycle <containing 1-3 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), mono- or bicyclic> (opt. substd.) / alkyl (substd. by aryl (opt. substd.)) / cycloalkyl (substd. by aryl (opt. substd.))
- G37 = OSO<sub>3</sub>H / SO<sub>3</sub>H / 506



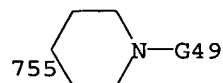
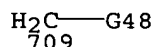
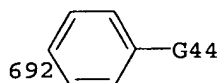
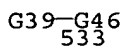
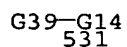
- G38 = CO<sub>2</sub>H / 508 / 511



- G39 = aryl (opt. substd. by 1 or more G43) / alkyl (substd. by aryl (opt. substd.)) / cycloalkyl (substd. by aryl (opt. substd.)) / heterocycle <containing 1-3 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), mono- or bicyclic, including 5- or 6-membered rings> (opt. substd.) / (Specifically claimed: CH<sub>2</sub>Ph / naphthyl / Ph (opt. substd.) / 525)



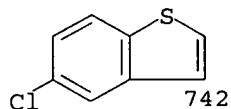
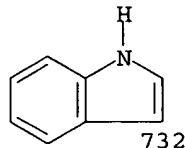
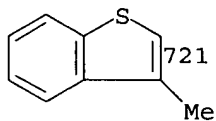
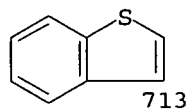
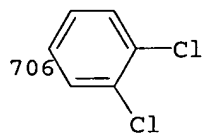
- G40 = F / Cl / Br / I
- G41 = alkyl <containing 1-6 C> (opt. substd.)
- G42 = aryl (opt. substd.) / cycloalkyl <containing 3-6 C> (opt. substd.) / alkoxy <containing 1-6 C> (opt. substd.) / cycloalkyloxy <containing 3-6 C> (opt. substd.)
- G43 = R / (Specifically claimed: F / Cl / Br / I / OH / CN / SH / NH<sub>2</sub> / alkyl <containing 1-6 C> (opt. substd. by 1 or more G40) / cycloalkyl <containing 3-6 C> (opt. substd. by 1 or more G40) / alkoxy <containing 1-6 C> / cycloalkyloxy <containing 3-6 C> / alkylthio <containing 1-6 C>)
- G44 = F / Cl / Br / I / OH / CN / SH / NH<sub>2</sub> / Me / OMe / CF<sub>3</sub> / OCF<sub>3</sub> / CO<sub>2</sub>H / CONH<sub>2</sub>
- G45 = 531 / 533 / aryl (opt. substd. by 1 or more G43) / alkyl (substd. by aryl (opt. substd.)) / cycloalkyl (substd. by aryl (opt. substd.)) / heterocycle <containing 1-3 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), mono- or bicyclic, including 5- or 6-membered rings> (opt. substd.) / (Specifically claimed: CH<sub>2</sub>Ph / naphthyl / Ph / 692 / 709 / CH<sub>2</sub>CH<sub>2</sub>Ph / 755)



G46 = alkylene <containing 1-3 C, unbranched>  
(opt. substd.) / G16

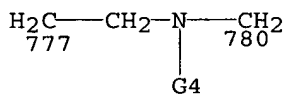
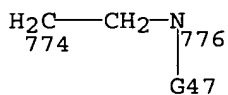
G47 = H / R

G48 = 706 / 2-thienyl / 713 / 721 / 3-thienyl / 732 / 742

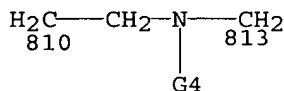
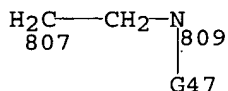


G49 = H / COMe

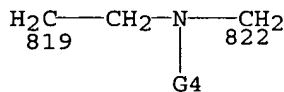
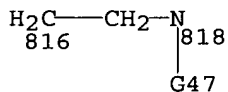
G50 = G7 / 774-762 776-767 / 777-762 780-767 /  
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G51 = G7 / 807-783 809-788 / 810-783 813-788 /  
CH=CHCH=CH



G52 = G7 / 816-795 818-800 / 819-795 822-800 /  
CH=CHCH=CH



Patent location:

claim 1

Note:

or pharmaceutically acceptable acid mimetics

L71 ANSWER 15 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 142:463617 MARPAT

TITLE: Preparation of quinoline derivatives as selectin inhibitors

INVENTOR(S): Kaila, Neelu; Debernardo, Silvano L.; Janz, Kristin

PATENT ASSIGNEE(S): M.; Camphausen, Raymond T.; Bedard, Patricia W.  
 SOURCE: Wyeth, John, and Brother Ltd., USA  
 U.S. Pat. Appl. Publ., 26 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005101568	A1	20050512	US 2004-984093	20041109
AU 2004288800	A1	20050526	AU 2004-288800	20041109
CA 2544693	AA	20050526	CA 2004-2544693	20041109
WO 2005047257	A2	20050526	WO 2004-US37334	20041109
WO 2005047257	A3	20050707		

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RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

EP 1682511 A2 20060726 EP 2004-818666 20041109

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR, IS, YU

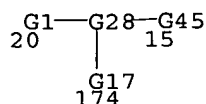
PRIORITY APPLN. INFO.: US 2003-518950P 20031110  
 WO 2004-US37334 20041109

OTHER SOURCE(S): CASREACT 142:463617

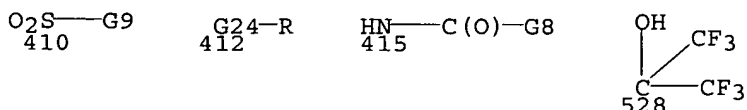
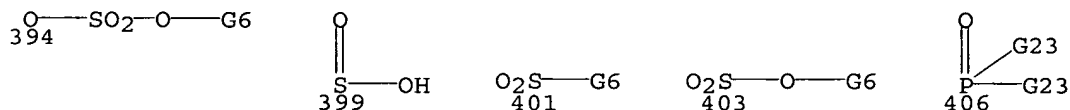
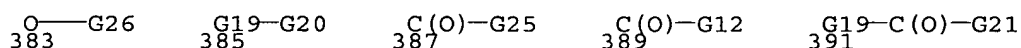
AB The title compds. (I) [L = CO<sub>2</sub>H, its ester, or a pharmaceutically acceptable acid mimetic; Y = O, (CR<sub>3</sub>R<sub>4</sub>)<sub>p</sub>, NR<sub>5</sub>; p = 1-3; X = H, OH, OR<sub>3</sub>, OC<sub>1-6</sub> alkyl, OC(:O)aryl, OC(:O)C<sub>1-6</sub> alkyl, OC(:O)OC<sub>1-6</sub> alkyl, or NR<sub>3</sub>R<sub>3</sub>'; each R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>3</sub>', R<sub>4</sub> = H, halogen, cyano, OH, SH, (CH<sub>2</sub>)<sub>n</sub>OSO<sub>3</sub>H, (CH<sub>2</sub>)<sub>n</sub>SO<sub>3</sub>H, (CH<sub>2</sub>)<sub>n</sub>CO<sub>2</sub>R<sub>6</sub>, OSO<sub>3</sub>R<sub>6</sub>, SO<sub>2</sub>R<sub>6</sub>, SO<sub>3</sub>R<sub>6</sub>, PO<sub>3</sub>R<sub>6</sub>R<sub>7</sub>, (CH<sub>2</sub>)<sub>n</sub>SO<sub>2</sub>NR<sub>8</sub>R<sub>9</sub>, (CH<sub>2</sub>)<sub>n</sub>C(:O)NR<sub>8</sub>R<sub>9</sub>, NR<sub>8</sub>R<sub>9</sub>, C(:O)R<sub>12</sub>, NHCOR<sub>8</sub>, each (un)substituted C<sub>1-6</sub> alkyl, C<sub>1-6</sub> perhaloalkyl, OC<sub>1-6</sub> alkyl, OC<sub>1-6</sub> perhaloalkyl, thioalkyl, aryl, heterocyclo, C(:O)aryl, C(:O)heterocyclo, OC(:O)aryl, OC(:O)heterocyclo, Oaryl, Oheterocyclo, arylalkyl, C(:O)arylalkyl, or OC(:O)arylalkyl, etc.; R<sub>6</sub>, R<sub>7</sub> = H, (un)substituted C<sub>1-6</sub> alkyl; R<sub>5</sub>, R<sub>8</sub>, R<sub>9</sub> = H, OH, (CH<sub>2</sub>)<sub>l</sub>OSO<sub>3</sub>H, (CH<sub>2</sub>)<sub>l</sub>SO<sub>3</sub>R<sub>10</sub>, (CH<sub>2</sub>)<sub>n</sub>CO<sub>2</sub>R<sub>10</sub>, SO<sub>3</sub>R<sub>10</sub>, PO<sub>3</sub>R<sub>10</sub>R<sub>11</sub>, (CH<sub>2</sub>)<sub>n</sub>SO<sub>2</sub>(CH<sub>2</sub>)<sub>n</sub>NR<sub>10</sub>R<sub>11</sub>, (CH<sub>2</sub>)<sub>n</sub>CONR<sub>10</sub>R<sub>11</sub>, COR<sub>10</sub>, each (un)substituted C<sub>1-6</sub> alkyl, C<sub>1-6</sub> haloalkyl, thioalkyl, aryl, heterocyclo, C(:O)aryl, C(:O)heterocyclo, O-C(:O)aryl, O-C(:O)heterocyclo, Oaryl, or Oheterocyclo, etc.; n = 0-6; l = 1-6; R<sub>10</sub>, R<sub>11</sub> = H, (un)substituted C<sub>1-6</sub> alkyl; R<sub>12</sub> = H, OH, (CH<sub>2</sub>)<sub>l</sub>OSO<sub>3</sub>H, (CH<sub>2</sub>)<sub>l</sub>SO<sub>3</sub>H, (CH<sub>2</sub>)<sub>l</sub>CO<sub>2</sub>R<sub>6</sub>, (CH<sub>2</sub>)<sub>l</sub>SO<sub>2</sub>NR<sub>8</sub>R<sub>9</sub>, (CH<sub>2</sub>)<sub>n</sub>C(:O)NR<sub>8</sub>R<sub>9</sub>, NR<sub>8</sub>R<sub>9</sub>, NHCOR<sub>8</sub>, each (un)substituted C<sub>1-6</sub> alkyl, C<sub>1-6</sub> perhaloalkyl, OC<sub>1-6</sub> alkyl, or OC<sub>1-6</sub> perhaloalkyl, etc.; Z = each (un)substituted aryl, arylalkyl, heteroaryl, or heterocyclo] are prepared. The present invention relates to the field of anti-inflammatory substances, and more particularly to novel compds. that act as antagonists of the mammalian adhesion proteins known as selectins. A method of inhibiting selectin-mediated intracellular adhesion associated with a disease, disorder, condition or undesired process is provided which include administration of the compound I. The selectin-mediated disease, disorder, condition or undesired process includes inflammation, infection,

metastasis, an undesired immunol. process, and an undesired thrombotic process. Thus, 6,7-dimethyl-1H-indole-2,3-dione was added to 6 N aqueous NaOH at 100-102° and stirred to give a clear, yellow solution which was treated dropwise with a solution of acetic acid 3-(4-chlorophenyl)-2-oxopropyl ester in luke warm EtOH over 1.5 h while stirring and heating at 100-102°, and the reaction mixture was gently refluxed for another 1.5 h to give, after workup, 51.2% 2-(4-chlorobenzyl)-3-hydroxy-7,8-dimethylquinoline-4-carboxylic acid. The 12 compds. I showed IC50 of 125-1,000 µM for inhibiting the binding of P-LE to human P-selectin glycoprotein ligand-1 (PSGL-1).

## MSTR 1

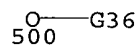
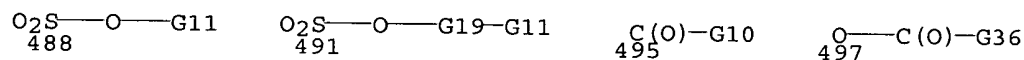
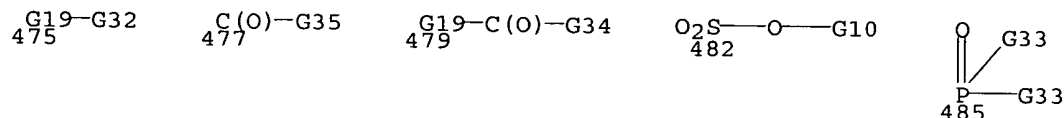


G1 = H / alkyl <containing 1-6 C> (opt. substd.) /  
 cycloalkyl <containing 3-6 C> (opt. substd.) /  
 alkyl <containing no H, 1-6 C> (substd. by 3 or more G40) /  
 cycloalkyl <containing 3-6 C> (substd. by 5 or more G40) /  
 383 / F / Cl / Br / I / alkylthio / cycloalkylthio / CN /  
 OH / SH / 385 / OSO3H / SO3H / 387 / 391 / 394 / 399 /  
 401 /  
 403 / 406 / 410 / NH2 / 412 / CHO / 389 /  
 aryl (opt. substd.) / heterocycle <containing 1-3  
 heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), mono- or bicyclic>  
 (opt. substd.) / alkyl (substd. by aryl (opt. substd.)) /  
 cycloalkyl (substd. by aryl (opt. substd.)) /  
 alkenyl (opt. substd.) / cycloalkenyl (opt. substd.) /  
 alkynyl (opt. substd.) / carbocycle <no double bonds,  
 1 or more triple bonds> (opt. substd.) / NHCHO / 415 /  
 (Specifically claimed: 3-furyl / 3-thienyl / Ph / Me / CF3 /  
 Pr-i / Et / Bu-s / 528)

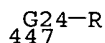


G5 = alkyl <containing 1-6 C> (opt. substd.) /  
 cycloalkyl <containing 3-6 C> (opt. substd.) /  
 alkyl <containing no H, 1-6 C> (substd. by 3 or more G40) /

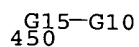
cycloalkyl <containing 3-6 C> (substd. by 5 or more G40) /  
 alkylthio / cycloalkylthio / OH / 475 / 477 / 479 / SO<sub>3</sub>H /  
 482 / 485 / 488 / 491 / CHO / 495 / aryl (opt. substd.) /  
 heterocycle <containing 1-3 heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 mono- or bicyclic> (opt. substd.) / 497 / 500 /  
 alkyl (substd. by aryl (opt. substd.)) /  
 cycloalkyl (substd. by aryl (opt. substd.)) /  
 alkenyl (opt. substd.) / cycloalkenyl (opt. substd.) /  
 alkynyl (opt. substd.) / carbocycle <no double bonds,  
 1 or more triple bonds> (opt. substd.)



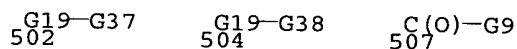
G6 = alkyl <containing 1-6 C>  
 (opt. substd. by (1-3) G22) / cycloalkyl <containing 3-6 C>  
 (opt. substd. by (1-3) G22)  
 G8 = H / R  
 G9 = NH<sub>2</sub> / 447



G10 = alkyl <containing 1-6 C> (opt. substd.) /  
 cycloalkyl <containing 3-6 C> (opt. substd.)  
 G11 = NH<sub>2</sub> (opt. substd.) / 450



G12 = alkyl <containing 1-6 C> (opt. substd.) /  
 alkyl <containing no H, 1-6 C> (substd. by 3 or more G40) /  
 502 / 504 / 507 / alkenyl (opt. substd.) /  
 alkynyl (opt. substd.) / alkyl (substd. by aryl (opt.  
 substd.))



G13 = CO<sub>2</sub>H (opt. substd.) / R  
 G14 = O / NH / 418

$\text{N}-\text{G5}$   
418

G15 = NH / 474

$\text{N}-\text{G10}$   
474

G16 = (1-3) CH<sub>2</sub>

G17 = H / OH / 420 / 422 / NH<sub>2</sub> / 424

$\text{O}-\text{G1}$        $\text{O}-\text{G18}$        $\text{G31}-\text{G1}$   
420            422            424

G18 = alkyl <containing 1-6 C> /  
cycloalkyl <containing 3-6 C> / 513 / 515

$\text{C}(\text{O})-\text{G42}$        $\text{C}(\text{O})-\text{G41}$   
513                  515

G19 = (1-6) CH<sub>2</sub>

G20 = OSO<sub>3</sub>H / SO<sub>3</sub>H / 426

$\text{O}_2\text{S}-\text{G9}$   
426

G21 = OH / 428 / NH<sub>2</sub> / 430

$\text{O}-\text{G6}$        $\text{G24}-\text{R}$   
428            430

G22 = OH / CF<sub>3</sub> / SH / F / Cl / Br / I

G23 = OH / 433

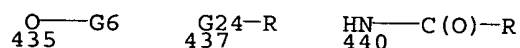
$\text{O}-\text{G6}$   
433

G24 = NH / 449

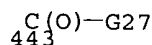
$\text{N}-\text{R}$   
449

G25 = OH / 435 / NH<sub>2</sub> / 437 /  
cycloalkyl <containing 3-6 C> (opt. substd.) /  
cycloalkyl <containing 3-6 C> (substd. by 5 or more G40) /  
alkoxy <containing 1-6 C> (opt. substd.) /  
cycloalkyloxy <containing 1-6 C> (opt. substd.) /  
alkylthio (opt. substd.) / cycloalkylthio (opt. substd.) /  
cycloalkenyl (opt. substd.) / carbocycle <no double bonds,  
1 or more triple bonds> (opt. substd.) / NHCHO / 440 /  
aryl (opt. substd.) / heterocycle <containing 1-3

heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms), mono- or bicyclic  
(opt. substd.) / cycloalkyl (substd. by aryl (opt. substd.))

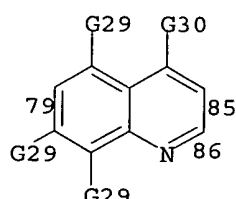
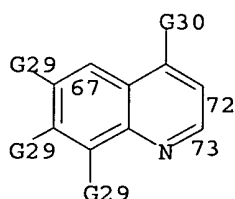
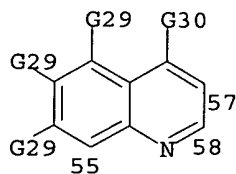
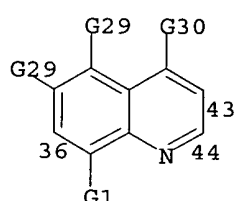
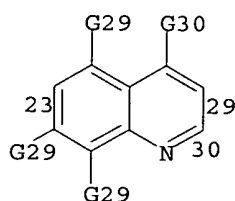
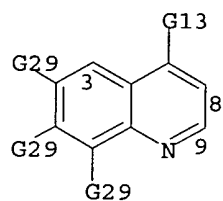


G26 = alkyl <containing 1-6 C> (opt. substd.) /  
cycloalkyl <containing 3-6 C> (opt. substd.) /  
alkyl <containing no H, 1-6 C> (substd. by 3 or more G40) /  
cycloalkyl <containing 3-6 C> (substd. by 5 or more G40) /  
443 / aryl (opt. substd.) / heterocycle <containing 1-3  
heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms), mono- or bicyclic>  
(opt. substd.) / alkyl (substd. by aryl (opt. substd.)) /  
cycloalkyl (substd. by aryl (opt. substd.))

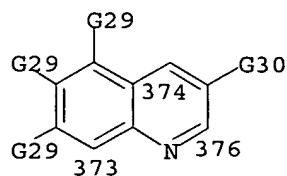
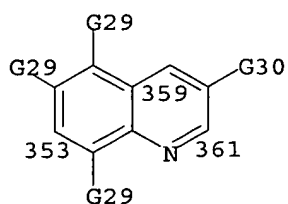
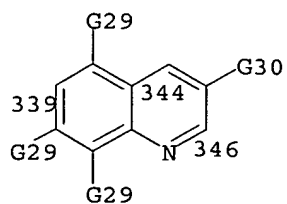
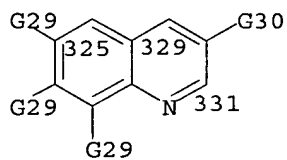
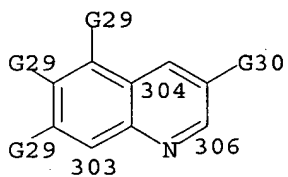
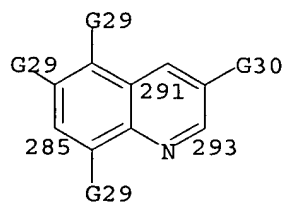
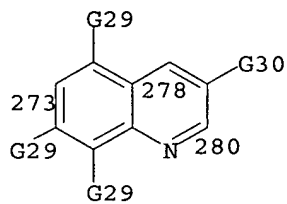
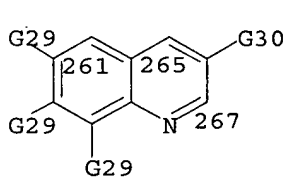
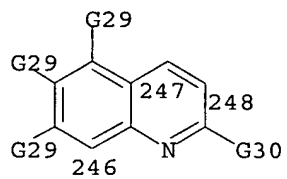
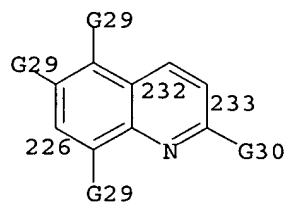
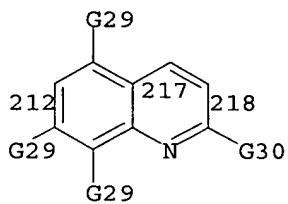
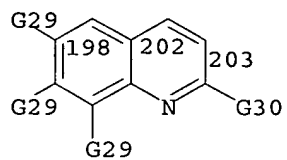
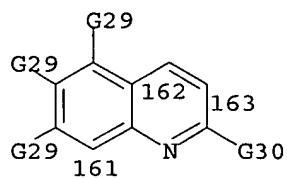
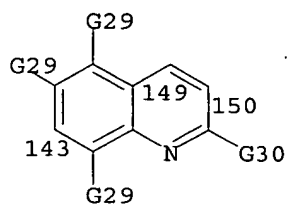
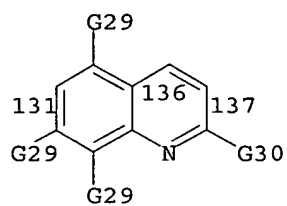
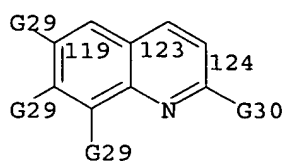
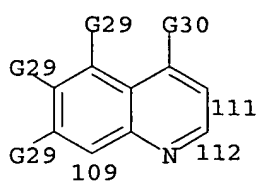
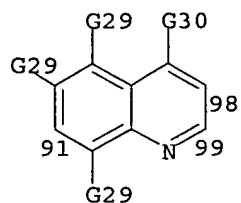


G27 = aryl (opt. substd.) / heterocycle <containing 1-3  
heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms), mono- or bicyclic>  
(opt. substd.) / alkyl (substd. by aryl (opt. substd.)) /  
cycloalkyl (substd. by aryl (opt. substd.))

G28 = 3-20 9-15 8-174 / 23-20 30-15 29-174 /  
36-20 44-15 43-174 / 55-20 58-15 57-174 /  
67-20 72-15 73-174 / 79-20 85-15 86-174 /  
91-20 98-15 99-174 / 109-20 111-15 112-174 /  
119-20 123-15 124-174 / 131-20 136-15 137-174 /  
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261-20 267-15 265-174 / 273-20 280-15 278-174 /  
285-20 293-15 291-174 / 303-20 306-15 304-174 /  
325-20 331-15 329-174 / 339-20 344-15 346-174 /  
353-20 359-15 361-174 / 373-20 374-15 376-174







G29 = H / R  
 G30 = CO<sub>2</sub>H (opt. substd.) / R  
 G31 = NH / 445

$\text{N} \text{---} \text{G1}$   
 445

G32 = OSO<sub>3</sub>H / SO<sub>3</sub>H / 453 / 456 / 459

$\text{O}_2\text{S} \text{---} \text{O} \text{---} \text{G10}$      $\text{O}_2\text{S} \text{---} \text{O} \text{---} \text{G11}$      $\text{O}_2\text{S} \text{---} \text{O} \text{---} \text{G19} \text{---} \text{G11}$   
 453                      456                      459

G33 = OH / 463

$\text{O} \text{---} \text{G10}$   
 463

G34 = OH / 465 / NH<sub>2</sub> / 467

$\text{O} \text{---} \text{G10}$      $\text{G15} \text{---} \text{G10}$   
 465                      467

G35 = OH / 470 / NH<sub>2</sub> / 472 / aryl (opt. substd.) /  
 heterocycle <containing 1-3 heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 mono- or bicyclic> (opt. substd.) /  
 alkyl (substd. by aryl (opt. substd.)) /  
 cycloalkyl (substd. by aryl (opt. substd.))

$\text{O} \text{---} \text{G10}$      $\text{G15} \text{---} \text{G10}$   
 470                      472

G36 = aryl (opt. substd.) / heterocycle <containing 1-3  
 heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), mono- or bicyclic>  
 (opt. substd.) / alkyl (substd. by aryl (opt. substd.)) /  
 cycloalkyl (substd. by aryl (opt. substd.))

G37 = OSO<sub>3</sub>H / SO<sub>3</sub>H / 506

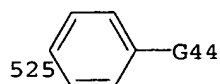
$\text{O}_2\text{S} \text{---} \text{G9}$   
 506

G38 = CO<sub>2</sub>H / 508 / 511

$\text{C}(\text{O}) \text{---} \text{O} \text{---} \text{G6}$      $\text{C}(\text{O}) \text{---} \text{G9}$   
 508                      511

G39 = aryl (opt. substd. by 1 or more G43) /  
 alkyl (substd. by aryl (opt. substd.)) /  
 cycloalkyl (substd. by aryl (opt. substd.)) /  
 heterocycle <containing 1-3 heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),

mono- or bicyclic, including 5- or 6-membered rings>  
(opt. substd.) / (Specifically claimed: CH<sub>2</sub>Ph / naphthyl /  
Ph / 525)



G40 = F / Cl / Br / I  
G41 = alkyl <containing 1-6 C> (opt. substd.)  
G42 = aryl (opt. substd.) / cycloalkyl <containing 3-6 C>  
(opt. substd.) / alkoxy <containing 1-6 C> (opt. substd.) /  
cycloalkyloxy <containing 3-6 C> (opt. substd.)  
G43 = R / (Specifically claimed: F / Cl / Br / I / OH /  
CN / SH / NH<sub>2</sub> / alkyl <containing 1-6 C>  
(opt. substd. by 1 or more G40) /  
cycloalkyl <containing 3-6 C> (opt. substd. by 1 or more G40)  
/ alkoxy <containing 1-6 C> / cycloalkyloxy <containing 1-6  
C> / alkylthio <containing 1-6 C>)  
G44 = Cl / OMe  
G45 = 531 / 533

G39-G14      G39-G46  
531            533

G46 = alkylene <containing 1-3 C, unbranched>  
(opt. substd.) / G16

Patent location: claim 1

Note: or pharmaceutically acceptable acid mimetics

L71 ANSWER 16 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 142:463354 MARPAT

TITLE: Preparation of hydroxypropyl amide peptide analogs for  
the treatment of Alzheimer's disease

INVENTOR(S): Tucker, John A.

PATENT ASSIGNEE(S): Elan Pharmaceuticals, Inc., USA; Pharmacia & Upjohn  
Company LLC

SOURCE: PCT Int. Appl., 127 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005042472	A2	20050512	WO 2004-US36418	20041101
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,				

NE, SN, TD, TG

CA 2543756 AA 20050512

CA 2004-2543756 20041101

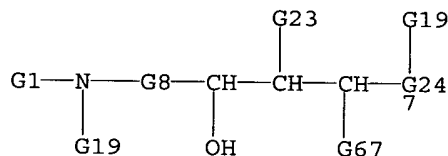
PRIORITY APPLN. INFO.:

US 2003-515908P 20031030

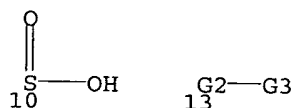
WO 2004-US36418 20041101

AB The present invention relates to hydroxypropyl amide peptide analogs I [R1 = H, (un)substituted alkyl, alkenyl, alkynyl, alkylcycloalkyl, aryl, heteroaryl, heterocyclyl, cycloalkyl, etc.; R2 = H, (un)substituted alkylcycloalkyl, alkenylcycloalkyl, alkynylcycloalkyl, etc.; R3, R13 = independently H, alkyl, carboxyalkyl, etc.; R4, R5 = independently H, (un)substituted alkyl; R6 = (Un)substituted alkylaryl, alkylheteroaryl, alkylheterocyclyl, etc.; X = bond, CO, CONR7, CO2, C(:NZ)NR7, SO2, C(:NZ), SO2NR7; X1 = CO, SO2; Y = bond, (un)substituted (CH2)n; R7, Z = independently H, alkyl, carboxyalkyl, CN, NO2, etc.; n = 1-3] useful in treating Alzheimer's disease and other similar diseases. These compds. include inhibitors of the beta-secretase enzyme that are useful in the treatment of Alzheimer's disease and other diseases characterized by deposition of A beta peptide in a mammal. The compds. of the invention are useful in pharmaceutical compns. and methods of treatment to reduce A beta peptide formation. Procedures for preparation of I are given. Thus, reaction of II (preparation given) with di-Et malonate gave furanone III. II was elaborated over several steps into title compds. IV [R5 = Me, Et, Pr, CH2OH, CH2CH2OH; R6 = CH2CH2CHMe2, (CH2)3Ph, 2-cyclopentylethyl, CH2OCH2Ph, CH2OEt, CH2OPr, CH2CH:CHEt, CH2CH:CHMe, CH:CHPr, CH:CHEt, (CH2)3Me, (CH2)4Me].

## MSTR 1



G1 = CHO / 10 / 13

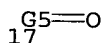


G2 = C(O) / SO2

G3 = 15 / cycloalkyl <containing 3-7 C> (opt. substd.) /  
 19 / (Examples: Me / Et / Pr-n)



G4 = alkylene <containing 1-6 C> (opt. substd.) /  
 alkenylene <containing 2-6 C> (opt. substd.) /  
 alkynylene <containing 2-6 C> (opt. substd.) / 17



G5 = carbon chain <containing 1-6 C,  
0 or more double bonds, 0 or more triple bonds>  
(opt. substd.)  
G6 = H / R / cycloalkyl <containing 3-7 C>  
(opt. substd.) / 21

$\text{G7}=\text{O}$   
21

G7 = carbocycle <containing 3-7 C, saturated>  
(opt. substd.)  
G8 = 32 / 35 / 205

$\text{HC}-\text{G16}-\text{G9}$       $\text{HC}-\text{G17}-\text{G18}$       $\text{HC}-\text{G69}$   
32                    35                    34                    205

G9 = H / 25

$\text{G10}-\text{G11}-\text{G12}$   
25

G10 = (1-2) CH2  
G11 = S / S(O) / SO2  
G12 = alkyl <containing 1-6 C>  
G13 = carbon chain <containing 1-13 C, saturated>  
(opt. substd.)  
G14 = alkylene <containing 1-6 C>  
G15 = cycloalkyl <containing 3-7 C> (opt. substd.)  
G16 = (0-3) CH2 (opt. substd.)  
G17 = G16 / 36-35 37-34 / (Example: 190)

$\text{G16}-\text{G14}$       $\text{HC}-\text{G66}$   
36 37                    190

G18 = aryl (opt. substd.) / heteroaryl <containing 1-4  
heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.) /  
heterocycle <containing 1-4 heteroatoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms),  
non-aromatic> (opt. substd.) / (Example: Ph (opt. substd. by  
1 or more G64))  
G19 = H / alkyl <containing 1-6 C> / 40

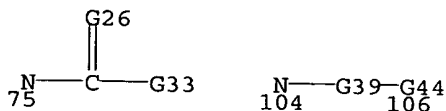
$\text{C}(\text{O})-\text{G20}$   
40

G20 = alkoxy <containing 1-6 C> / 42

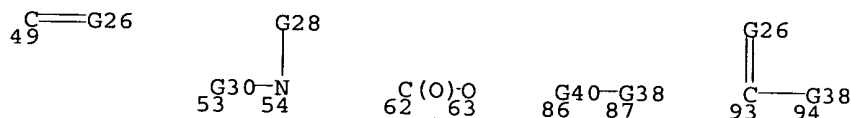
$\text{O}-\text{G21}-\text{G22}$   
42

G21 = (0-2) CH2  
G22 = Ph (opt. substd. by alkyl <containing 1-6 C>).  
G23 = H / alkyl <containing 1-6 C> (opt. substd.)

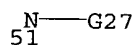
G24 = 8 / 64 / 75 / 104



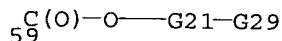
G25 = bond / 49 / 53-8 54-48 / 62-8 63-48 / SO2 / G38 /  
86-8 87-48 / 93-8 94-48



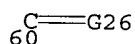
G26 = O / NH / 51



G27 = alkyl <containing 1-6 C> / CN /  
alkoxy <containing 1-6 C> / NO2  
G28 = H / alkyl <containing 1-6 C> (opt. substd.) /  
alkoxycarbonyl <containing 1-6 C> (opt. substd.) / 59



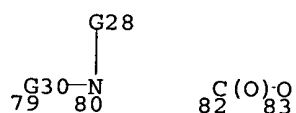
G29 = Ph (opt. substd. by alkyl <containing 1-6 C>  
(opt. substd.))  
G30 = 60 / SO2



G31 = aryl (opt. substd.) / heteroaryl <containing 1-4  
heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.) /  
heterocycle <containing 1-4 heteroatoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms),  
non-aromatic> (opt. substd.) / 67 / 69 /  
(Specifically claimed: Ph)

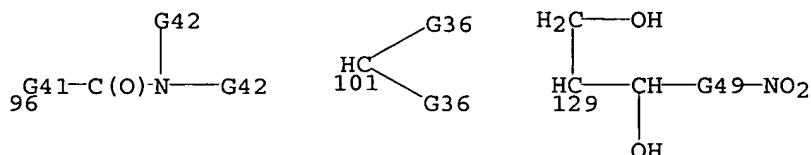


G32 = bond / 79-64 80-66 / 82-64 83-66 / SO2

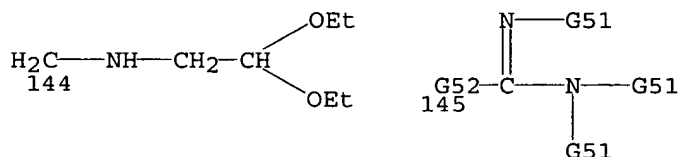


G33 = 96 / 101 / 129 / 136 / 144 / 145 /  
 alkenyl <containing 2-6 C> (substd. by heteroaryl  
 <containing 1-4 heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.)) /  
 152 / alkyl <containing 1-10 C> (opt. substd.) / 84 /  
 cycloalkyl <containing 3-8 C> (opt. substd.) / 173 /  
 alkenyl <containing 2-10 C> (opt. substd.) /  
 alkynyl <containing 2-10 C> (opt. substd.) /  
 (Specifically claimed: CH<sub>2</sub>CH<sub>2</sub>CHMe<sub>2</sub> / 207 / 209 / 216 / 220 /  
 Bu-n / pentyl)

G37=O  
 84



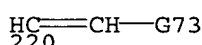
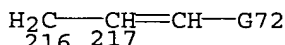
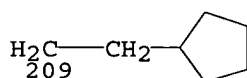
G14-O-G50  
 136



G51  
 G38-N(152)-C(O)-O-G53-G54

G56-G57  
 173

H2C-G71  
 207



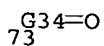
G34 = heterocycle <containing 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), non-aromatic>  
 (opt. substd.)

G35 = arylene (opt. substd.) /  
 heteroarylene <containing 1-4 heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms)>  
 (opt. substd.) / heterocycle <containing 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), non-aromatic>  
 (opt. substd.) / 71

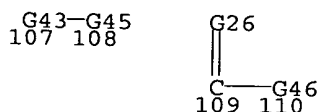
G34=O  
 71

G36 = aryl (opt. substd.) / heteroaryl <containing 1-4  
 heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.) /

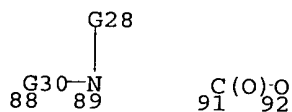
heterocycle <containing 1-4 heteroatoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms),  
non-aromatic> (opt. substd.) / 73



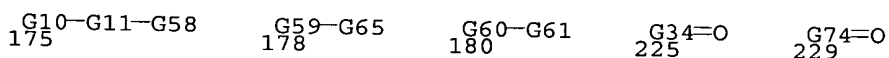
- G37 = carbon chain <containing 1-10 C, saturated>  
(opt. substd.)  
G38 = (1-4) CH2 (opt. substd.)  
G39 = 107-104 108-106 / 109-104 110-106



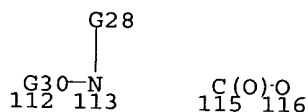
- G40 = 88-8 89-87 / 91-8 92-87 / SO2



- G41 = (1-3) CH2 (opt. substd.)  
G42 = H / 175 / 178 / aryl (opt. substd.) / 229 /  
heteroaryl <containing 1-4 heteroatoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms)>  
(opt. substd.) / heterocycle <containing 1-4 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), non-aromatic>  
(opt. substd.) / 225 / 180 / alkyl <containing 1-6 C>  
(opt. substd.) / alkenyl <containing 2-6 C> (opt. substd.) /  
alkynyl <containing 2-6 C> (opt. substd.) /  
cycloalkyl <containing 3-7 C> (opt. substd.)

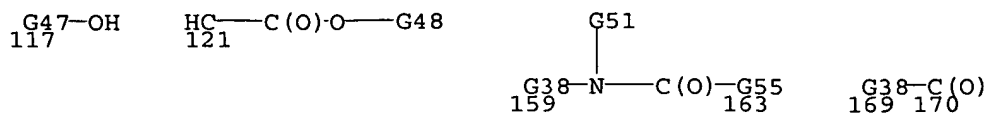


- G43 = bond / 112-104 113-108 / 115-104 116-108 / SO2

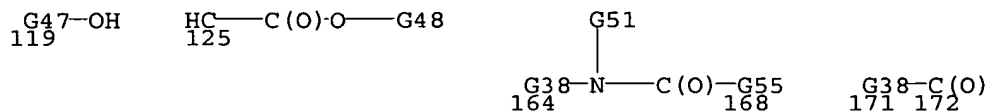


- G44 = aryl (opt. substd.) / heteroaryl <containing 1-4  
heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.)  
G45 = 117 / 121 / 159-107 163-106 / 169-107 170-106

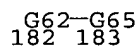




G46 = 119 / 125 / 164-109 168-106 / 171-109 172-106



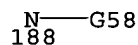
G47 = carbon chain <containing 1-9 C, saturated>  
 G48 = alkyl <containing 1-4 C>  
 G49 = phenylene  
 G50 = alkyl <containing 1-6 C> (substd. by OH) /  
 alkenyl <containing 2-6 C> / alkyl <containing 1-6 C>  
 (substd. by alkoxy <containing 1-6 C>) /  
 aryl (opt. substd.) / alkyl <containing 1-6 C>  
 (substd. by aryl (opt. substd.)) /  
 cycloalkyl <containing 3-12 C> /  
 alkyl <containing 1-6 C> (substd. by cycloalkyl <containing  
 3-12 C>)  
 G51 = H / alkyl <containing 1-6 C>  
 G52 = (0-6) CH2  
 G53 = alkylene <containing 1-3 C>  
 G54 = aryl (opt. substd.)  
 G55 = bond / alkylene <containing 1-3 C>  
 G56 = (1-3) CH2  
 G57 = cycloalkyl <containing 3-8 C> (opt. substd.)  
 G58 = alkyl <containing 1-6 C> (opt. substd.)  
 G59 = alkylene <containing 1-4 C> (opt. substd.)  
 G60 = (1-4) CH2  
 G61 = 182 / cycloalkyl <containing 3-7 C> (opt. substd.) /  
 (Example: cyclopentyl (opt. substd.))



G62 = O / S / 184 / 186-180 187-183

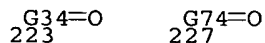


G63 = O / S / 188

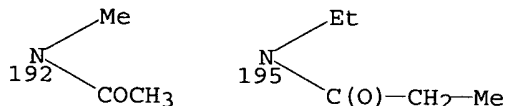


G64 = F / Cl / Br / I / alkyl <containing 1-2 C> /  
 alkoxy <containing 1-2 C> / OH / CF3 / NO2  
 G65 = aryl (opt. substd.) / 227 /  
 heteroaryl <containing 1-4 heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms)>

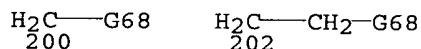
(opt. substd.) / heterocycle <containing 1-4 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), non-aromatic>  
(opt. substd.) / 223



G66 = OH / F / Cl / Br / I / OMe / OEt / NH<sub>2</sub> / NMe<sub>2</sub> /  
NEt<sub>2</sub> / 192 / 195



G67 = H / alkyl <containing 1-6 C> (opt. substd.) /  
(Examples: 200 / 202 / Pr-n)



G68 = H / OH

G69 = carbon chain <containing 1-13 C,  
0 or more double bonds, 0 or more triple bonds>  
(opt. substd.) / 28 / 30



G70 = alkylene <containing 1-9 C> (opt. substd.)

G71 = OCH<sub>2</sub>Ph / OEt / OPr-n

G72 = Et / Me

G73 = Pr-n / Et

G74 = carbocycle <containing 6 or more C,  
2 or more double bonds> (opt. substd.)

Patent location: claim 1

Note: additional derivatization also claimed

Note: or pharmaceutically acceptable salts

Note: substitution is restricted

Stereochemistry: 217, 220-E

L71 ANSWER 17 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 142:447111 MARPAT

TITLE: Preparation of sulfonylaminovalerolactams and  
derivatives thereof as factor Xa inhibitors

INVENTOR(S): Han, Wei; Hu, Zilun; Gungor, Timur

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 120 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

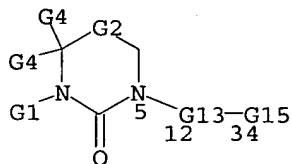
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PATENT INFORMATION:

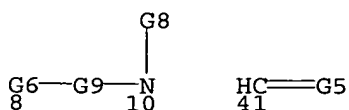
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005096309	A1	20050505	US 2004-952396	20040928
WO 2005048922	A2	20050602	WO 2004-US31774	20040929
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1667635	A2	20060614	EP 2004-817779	20040929
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
PRIORITY APPLN. INFO.:			US 2003-507177P	20030930
			US 2004-952396	20040928
			WO 2004-US31774	20040929

AB The present application describes sulfonylaminovalerolactams and derivs. thereof of formula I-VI or pharmaceutically acceptable salt forms thereof [wherein the central lactam ring is optionally substituted; ring G = (un)substituted mono- or bicyclic carbocycle or heterocycle; X = SO<sub>2</sub>, (un)substituted NH; G<sub>1</sub> = H, cyano, each (un)substituted (CH<sub>2</sub>)<sub>1-2</sub>-C(O)H, NH<sub>2</sub>, (CH<sub>2</sub>)<sub>2-5</sub>-NH<sub>2</sub>, (CH<sub>2</sub>)<sub>2-5</sub>-OH, C<sub>1-6</sub> alkyl, etc.; G<sub>2</sub> = (un)substituted CH<sub>2</sub>CH<sub>2</sub> or CH:CH; A = each (un)substituted C<sub>3-10</sub> cycloalkyl, C<sub>3-10</sub> cycloalkenyl, or 4- to 12-membered heterocyclyl; B = cyano, (un)substituted C<sub>1-6</sub> alkyl, C<sub>2-6</sub> alkenyl, C<sub>2-6</sub> alkynyl, C<sub>1-6</sub> alkoxy, etc.]. These compds. are useful as inhibitors of trypsin-like serine proteases, specifically factor Xa, for treating thromboembolic disorders which is selected from arterial or venous cardiovascular thromboembolic disorders. Thus, reductive amination of cyclopentanone by (S)-6-chloronaphthalene-2-sulfonic acid N-(2-oxo-[1,4']bipiperidinyl-3-yl)amide and sodium cyanoborohydride in THF at room temperature for 5 h gave (S)-6-chloronaphthalene-2-sulfonic acid N-(1'-cyclopentyl-2-oxo-[1,4']bipiperidinyl-3-yl)amide. The compds. I inhibited factor Xa with K<sub>i</sub> of ≤10 μM. Some of the compds. I also inhibited human thrombin with k<sub>i</sub> of ≤10 μM.

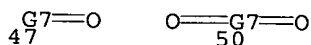
## MSTR 2



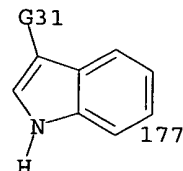
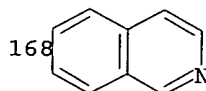
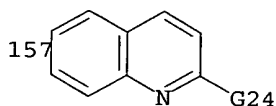
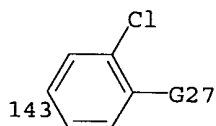
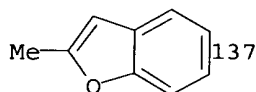
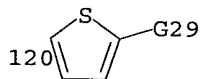
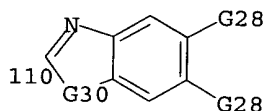
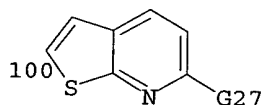
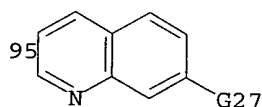
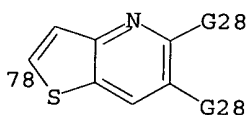
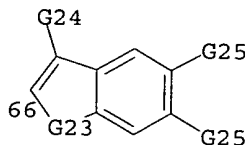
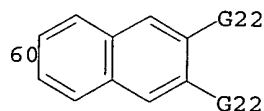
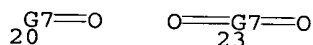
G1 = 10 / 41



- G2 = (0-2) CH<sub>2</sub>  
 G3 = H / R  
 G4 = H / (Specifically claimed: Me)  
 G5 = any ring <containing 9-10 atoms, 0-4 heteroatoms, zero or more N, up to 2 O, up to 2 S (no other heteroatoms), aromatic, 6 or more normalized bonds, bicyclic, (0-1) 5-membered, (1-2) 6-membered rings only> (opt. substd.) / 47 / 50



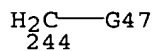
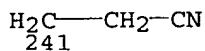
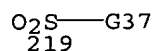
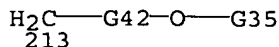
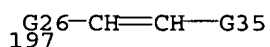
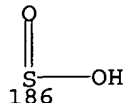
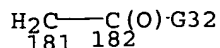
- G6 = any ring <containing 9-10 atoms, 0-4 heteroatoms, zero or more N, up to 2 O, up to 2 S (no other heteroatoms), aromatic, 6 or more normalized bonds, bicyclic, (0-1) 5-membered, (1-2) 6-membered rings only> (opt. substd.) / 20 / 23 / Ph (opt. substd.) / pyridyl (opt. substd.) / pyrimidinyl (opt. substd.) / pyrazinyl (opt. substd.) / pyridazinyl (opt. substd.) / pyrrolyl (opt. substd.) / pyrazolyl (opt. substd.) / imidazolyl (opt. substd.) / isoxazolyl (opt. substd.) / oxazolyl (opt. substd.) / triazolyl (opt. substd.) / thienyl (opt. substd.) / thiazolyl (opt. substd.) / (Specifically claimed: 60 / 66 / 78 / 95 / 100 / 110 / 120 / 137 / 143 / 157 / 168 / 177)



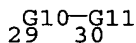
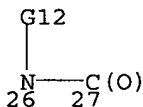
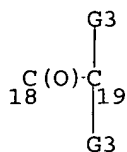
- G7 = any ring <containing 9-10 atoms, 0-4 heteroatoms, zero or more N, up to 2 O, up to 2 S (no other heteroatoms), aromatic, 6 or more normalized bonds, bicyclic,

(0-1) 5-membered, (1-2) 6-membered rings only>  
(opt. substd.)

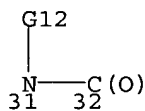
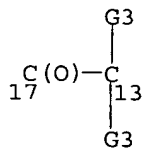
G8 = H / R / (Specifically claimed: alkyl <containing  
1-4 C> (opt. substd.) / 186 / 219 / 197 / 181 / 213 / CH<sub>2</sub>CN /  
241 / 244)



G9 = SO<sub>2</sub> / CH<sub>2</sub> (opt. substd.) / C(O) / 18-8 19-10 /  
26-8 27-10 / 29-8 30-10

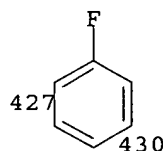
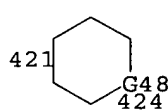
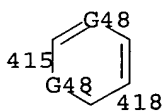
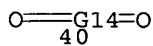
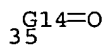


G10 = CH<sub>2</sub>CH<sub>2</sub> (opt. substd.) / CH=CH (opt. substd.)  
G11 = SO<sub>2</sub> / CH<sub>2</sub> (opt. substd.) / C(O) / 17-29 13-10 /  
31-29 32-10



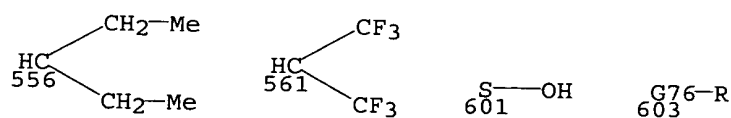
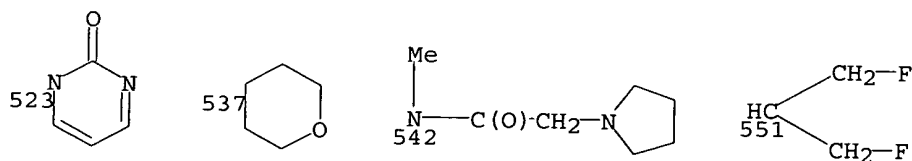
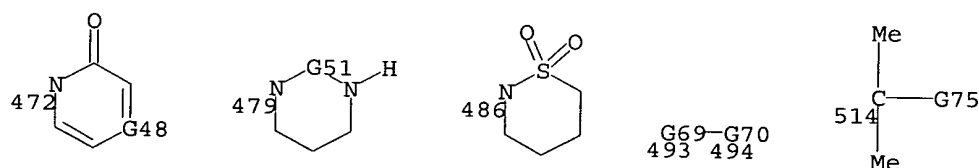
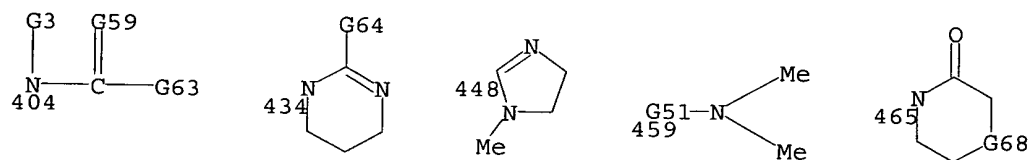
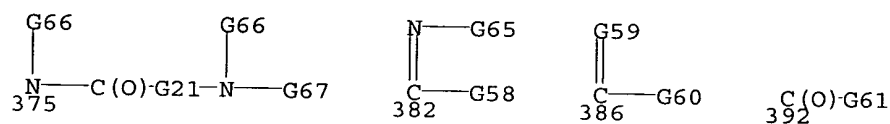
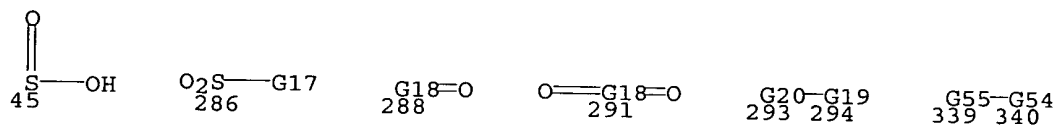
G12 = H / Me / Et / Pr-n / Pr-i / Bu-n / Bu-i / Bu-s /  
Bu-t / CH<sub>2</sub>Ph / Ph

G13 = carbocycle <containing 3-10 C> (opt. substd.) / 35 /  
40 / heterocycle <containing 5-12 atoms, 1-4 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.) /  
(Specifically claimed: 415-5 418-34 / 421-5 424-34 /  
427-5 430-34 )

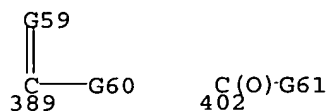


G14 = carbocycle <containing 3-10 C> (opt. substd.) /  
heterocycle <containing 5-12 atoms, 1-4 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.)

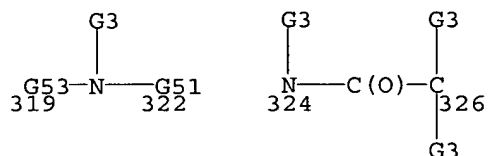
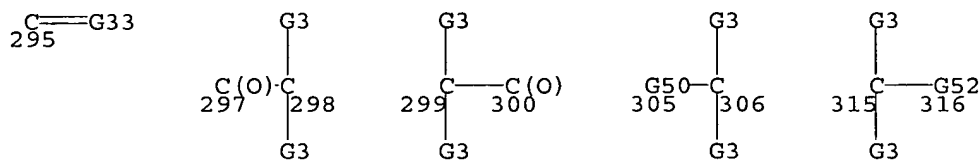
G15 = alkyl <containing 1 or more C> (opt. substd.) /  
 392 / NH2 (opt. substd.) / 45 / 286 /  
 any ring <containing 3-10 atoms, 0-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.) / 288 /  
 291 / 293 / 339 / 375 / 382 / CN / 386 / OH (opt. substd.) /  
 404 / heterocycle <containing 5-8 atoms,  
 1 or more heteroatoms, 1 or more N,  
 5- to 8-membered monocyclic ring> (opt. substd.) / SH / 601 /  
 603 / (Specifically claimed: 434 / 448 / 459 / 465 / 472 /  
 479 / 486 / 493 / 514 / morpholino / 523 / 537 / 542 / Pr-i /  
 Me / Bu-s / Bu-i / 551 / cyclobutyl / 2-pyridyl / NMe2 / Et /  
 Bu-t / 556 / 561 / cyclopropyl / cyclopentyl)



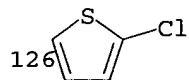
- G17 = R / NH2 (opt. substd.)  
 G18 = any ring <containing 3-10 atoms, 0-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.)  
 G19 = alkyl <containing 1 or more C> (opt. substd.) /  
 402 / CN / 389



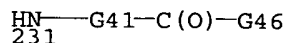
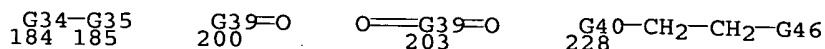
- G20 = G21 / carbon chain <containing 1 or more C,  
 0 or more double bonds, no triple bonds> (opt. substd.) /  
 295 / 297-12 298-294 / 299-12 300-294 / S(O) / SO2 /  
 305-12 306-294 / 315-12 316-294 / 319-12 322-294 /  
 324-12 326-294



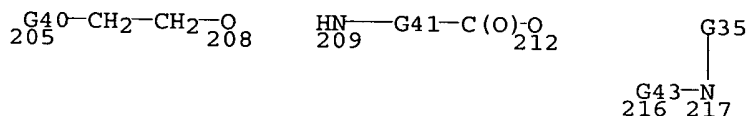
- G21 = (1-4) CH2 (opt. substd.)  
 G22 = H / Cl / OMe / Br  
 G23 = S / O / NH  
 G24 = H / Me  
 G25 = H / Cl / OMe / Me  
 G26 = S / S(O) / SO2  
 G27 = Cl / OMe  
 G28 = H / Cl / OMe  
 G29 = Cl / 126



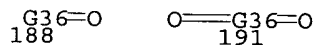
- G30 = S / NH  
 G31 = Cl / Me  
 G32 = 184 / heterocycle <containing 5-6 atoms,  
 1-2 heteroatoms, 1 or more N, zero or more O,  
 zero or more S (no other heteroatoms),  
 attached through 1 or more N, 5- to 6-membered monocyclic  
 ring> (opt. substd.) / 200 / 203 / 228 / 231



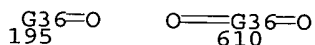
G33 = O / NH (opt. substd.)  
 G34 = O / 205-182 208-185 / 209-182 212-185 /  
 216-182 217-185



G35 = H / Me / Et / Pr-n / Pr-i / Ph (opt. substd.) /  
 CH2Ph (opt. substd.) / heteroaryl <containing 1-4  
 heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), monocyclic>  
 (opt. substd.) / 188 / 191



G36 = heterocycle <containing 5-6 atoms, 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms),  
 attached through 1 or more S, aromatic, 2-3 double bonds,  
 5- to 6-membered monocyclic ring> (opt. substd.)  
 G37 = Me / Et / Pr-n / Pr-i / Ph (opt. substd.) /  
 CH2Ph (opt. substd.) / heteroaryl <containing 1-4  
 heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), monocyclic>  
 (opt. substd.) / 195 / 610



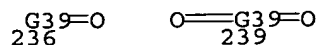
G39 = heterocycle <containing 5-6 atoms, 1-2 heteroatoms,  
 1 or more N, zero or more O, zero or more S (no other  
 heteroatoms), attached through 1 or more N,  
 5- to 6-membered monocyclic ring> (opt. substd.)  
 G40 = NH / NMe  
 G41 = (1-2) CH2  
 G42 = CH2 / CMe2  
 G43 = bond / 222-182 224-217 / 225-182 227-217



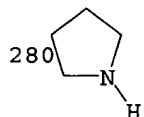
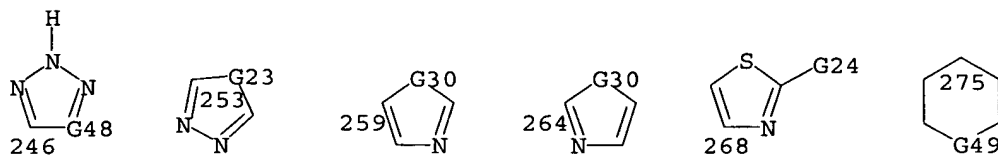
G46 = heterocycle <containing 5-6 atoms, 1-2 heteroatoms,  
 1 or more N, zero or more O, zero or more S (no other  
 heteroatoms), attached through 1 or more N,



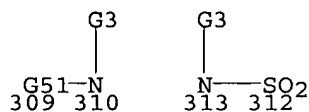
5- to 6-membered monocyclic ring&gt; (opt. substd.) / 236 / 239



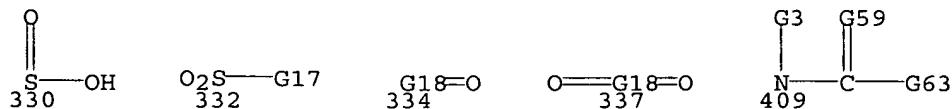
G47 = 246 / 253 / 259 / 264 / 268 / pyridyl /  
 pyrimidinyl / pyrazinyl / Ph / cyclopropyl / cyclobutyl /  
 cyclopentyl / cyclohexyl / 275 / 280



G48 = CH / N  
 G49 = NH / O  
 G50 = S / S(O) / SO<sub>2</sub> / 309-12 310-306 / 313-12 312-306 /  
 NH (opt. substd.) / O

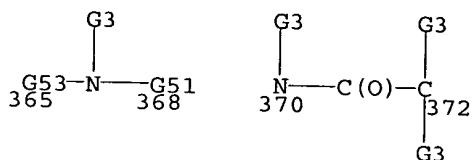
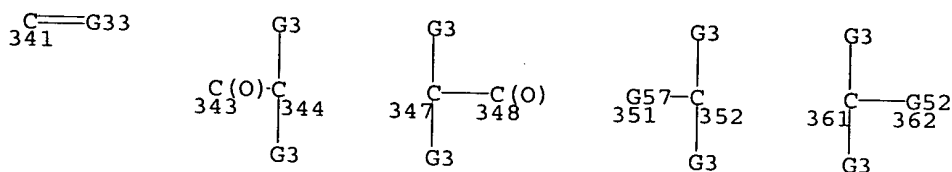


G51 = SO<sub>2</sub> / C(O)  
 G52 = S(O) / SO<sub>2</sub>  
 G53 = (0-1) CH<sub>2</sub> (opt. substd.)  
 G54 = NH<sub>2</sub> (opt. substd.) / 330 / 332 /  
 any ring <containing 3-10 atoms, 0-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.) / 334 /  
 337 / OH (opt. substd.) / 409 / SH / 605 / 607

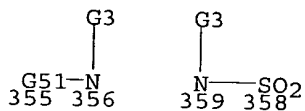


G55 = G21 / carbon chain <containing 1 or more C,  
 0 or more double bonds, no triple bonds> (opt. substd.) /  
 341 / 343-12 344-340 / 347-12 348-340 / S(O) / SO<sub>2</sub> /  
 351-12 352-340 / 361-12 362-340 / 365-12 368-340 /

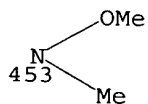
370-12 372-340



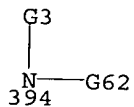
G57 = S / S(O) / SO<sub>2</sub> / 355-12 356-352 / 359-12 358-352 /  
NH (opt. substd.) / O



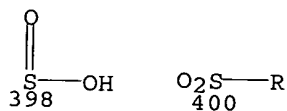
G58 = NH<sub>2</sub> (opt. substd.) / Me (opt. substd.) /  
(Specifically claimed: pyrrolidino / NMe<sub>2</sub> / 453)



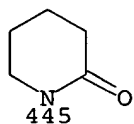
G59 = O / S  
G60 = H / R / OH (opt. substd.)  
G61 = NH<sub>2</sub> (opt. substd.) / 394



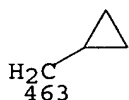
G62 = 398 / 400



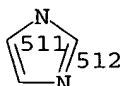
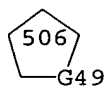
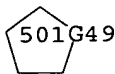
G63 = H / R / NH<sub>2</sub> (opt. substd.)  
G64 = H / Me / Et / Pr-i / Ph / NH<sub>2</sub> / NHSO<sub>2</sub>Me / NHCOMe /  
OMe / 445



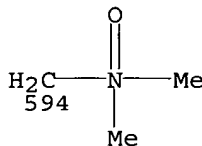
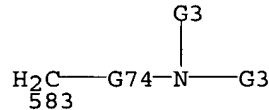
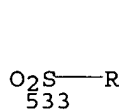
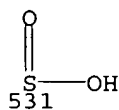
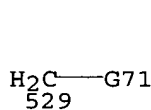
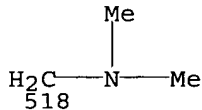
G65 = H / R / (Specifically claimed: SO<sub>2</sub>Me / OMe)  
 G66 = H / R / (Specifically claimed: Me)  
 G67 = H / R / (Specifically claimed: Me / Et / 463 /  
 cyclobutyl / cyclopentyl / cyclohexyl / Pr-i)



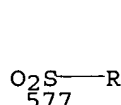
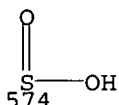
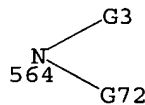
G68 = CH<sub>2</sub> / CH<sub>2</sub>CH<sub>2</sub> / NH / O  
 G69 = 495 / 511-12 512-494 / 501 / 506 / o-C<sub>6</sub>H<sub>4</sub>



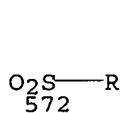
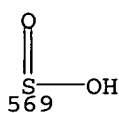
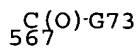
G70 = R / 518 / 529 / 531 / 533 / NH<sub>2</sub> (opt. substd.) /  
 CHO (opt. substd.) / 583 / 594



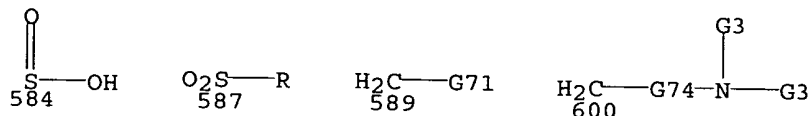
G71 = NH<sub>2</sub> (opt. substd.) / 564 / 574 / 577 /  
 OH (opt. substd.)



G72 = 567 / 569 / 572



G73 = H / R / NH<sub>2</sub> (opt. substd.) / OH (opt. substd.)  
 G74 = C(O) / CH<sub>2</sub>  
 G75 = R / 589 / 584 / 587 / NH<sub>2</sub> (opt. substd.) /  
 CHO (opt. substd.) / 600



G76 = S / S(O)

Patent location:

claim 9

Note:

or pharmaceutically acceptable salts

Note:

substitution is restricted

Note:

additional derivatization also claimed

L71 ANSWER 18 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 142:392407 MARPAT

TITLE: Preparation of monocyclic and bicyclic lactams, in particular derivatives of pyrrolidines and pyrroloimidazoles, as Factor Xa inhibitors

INVENTOR(S): Han, Wei; Qiao, Jennifer; Hu, Zilun

PATENT ASSIGNEE(S): Bristol-Myers Squibb Company, USA

SOURCE: PCT Int. Appl., 329 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

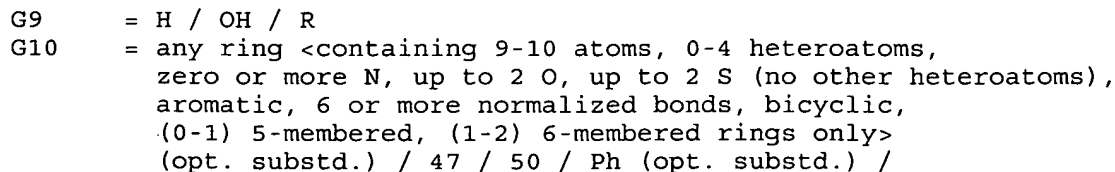
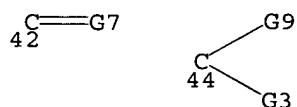
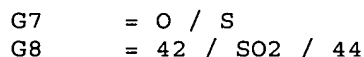
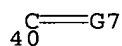
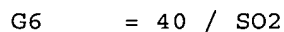
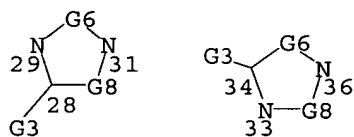
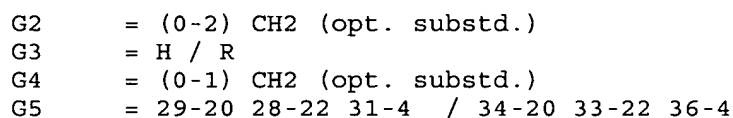
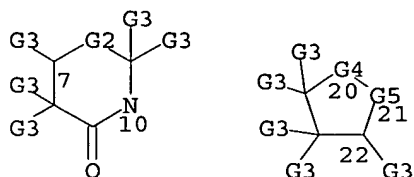
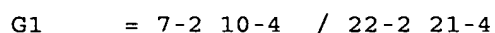
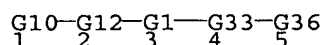
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

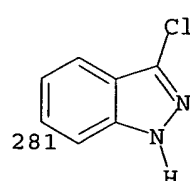
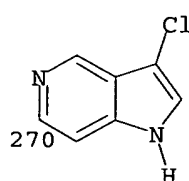
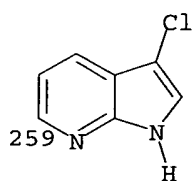
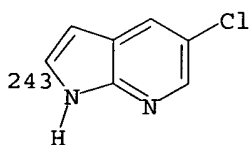
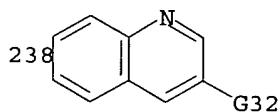
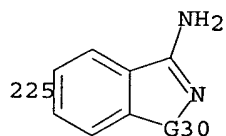
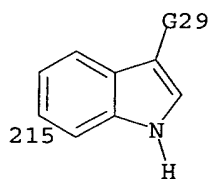
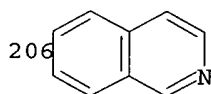
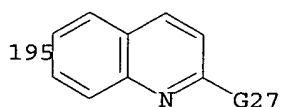
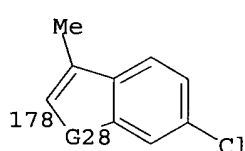
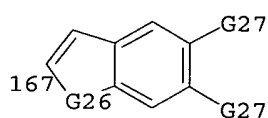
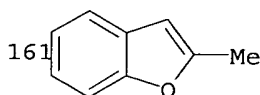
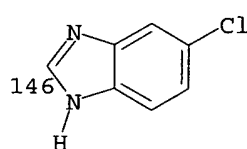
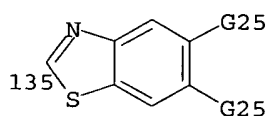
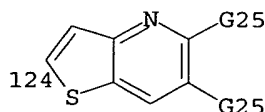
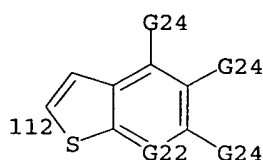
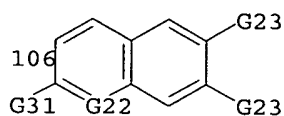
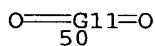
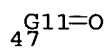
PATENT INFORMATION:

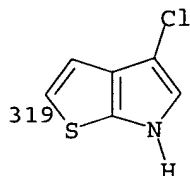
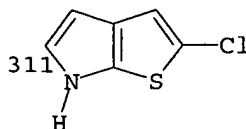
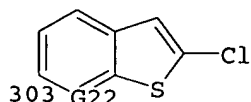
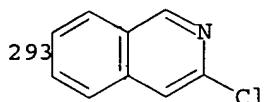
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
US 2005107361	A1	20050519	US 2004-952397	20040928
EP 1667647	A2	20060614	EP 2004-789189	20040929
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR			
PRIORITY APPLN. INFO.:			US 2003-507533P	20031001
			US 2004-952397	20040928
			WO 2004-US31857	20040929
AB	Title compds. [I and II; V = (CH <sub>2</sub> ) <sub>n</sub> ; n = 1-3; U = (CH <sub>2</sub> ) <sub>m</sub> ; m = 1-2; one of T1 and T2 = CO, CS, SO <sub>2</sub> , and the other = CO, CS, SO <sub>2</sub> , CH <sub>2</sub> , CHOH; one of Z1 and Z2 = N, and the other = C; G = (un)substituted Ph, pyrimidyl, pyrazinyl, pyridazinyl, etc. optionally fused with a 5-6 membered ring containing 0-2 heteroatoms; G1 = SO <sub>2</sub> NH and derivs., NHCO, NHCSNH and derivs., (un)substituted alkylene, etc.; A = (un)substituted carbocycle,			

heterocycle; B = alkylene, SO<sub>2</sub>H and derivs., (un)substituted carbocycle, heterocycle, etc.; R1a at each occurrence = H, (un)substituted alkylene, alkenylene, alkynylene, etc.; or R1aCCR1a = (un)substituted 5-7 membered ring; their stereoisomers or pharmaceutically acceptable salts; with provisos], were prepared as inhibitors of trypsin-like serine proteases, specifically Factor Xa. For example, an eleven-step synthesis starting from trans-3-Hydroxy-L-proline is given for lactam III. I displayed Ki ≤ 10 μM for the inhibition of Factor Xa. I were effective thrombin inhibitors; Ki ≤ 10 μM. I are useful antithrombotics.

**MSTR 1A**

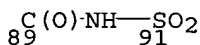
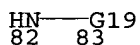
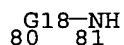
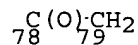
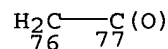
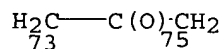
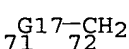
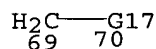
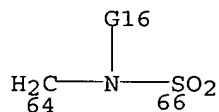
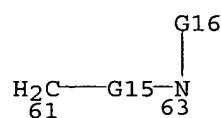
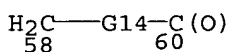
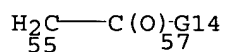
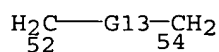
pyridyl (opt. substd.) / pyrimidinyl (opt. substd.) /  
 pyrazinyl (opt. substd.) / pyridazinyl (opt. substd.) /  
 pyrrolyl (opt. substd.) / pyrazolyl (opt. substd.) /  
 imidazolyl (opt. substd.) / isoxazolyl (opt. substd.) /  
 oxazolyl (opt. substd.) / triazolyl (opt. substd.) /  
 thienyl (opt. substd.) / thiazolyl (opt. substd.) /  
 (Specifically claimed: 106 / 112 / 124 / 135 / 146 / 161 /  
 167 / 178 / 195 / 206 / 215 / 225 / 238 / 243 / 259 / 270 /  
 281 / 293 / 303 / 311 / 319)





G11 = any ring <containing 9-10 atoms, 0-4 heteroatoms, zero or more N, up to 2 O, up to 2 S (no other heteroatoms), aromatic, 6 or more normalized bonds, bicyclic, (0-1) 5-membered, (1-2) 6-membered rings only> (opt. substd.)

G12 = carbon chain <containing 1 or more C, 0-1 double bond, 0-1 triple bond> (opt. substd.) / R / (Specifically claimed: CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub> / 73-1 75-3 / 52-1 54-3 / 55-1 57-3 / 58-1 60-3 / 61-1 63-3 / 64-1 66-3 / CH<sub>2</sub> / CH<sub>2</sub>CH<sub>2</sub> / CH=CH / 69-1 70-3 / 71-1 72-3 / C(O) / NH / 76-1 77-3 / 78-1 79-3 / 80-1 81-3 / 82-1 83-3 / 89-1 91-3 / SO<sub>2</sub>)



G13 = O / NH (opt. substd.) / S / S(O) / SO<sub>2</sub>

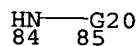
G14 = O / NH (opt. substd.)

G15 = S(O) / SO<sub>2</sub>

G16 = H / R

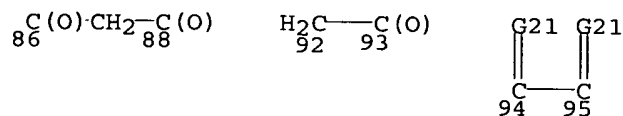
G17 = O / NH / S / S(O) / SO<sub>2</sub>

G18 = C(O) / SO<sub>2</sub> / 84-1 85-81

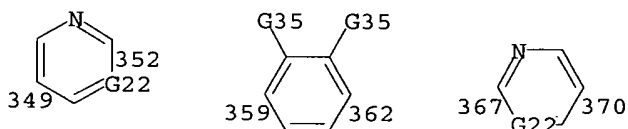
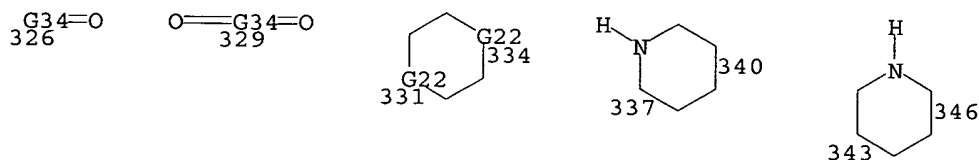


G19 = C(O) / SO<sub>2</sub>

G20 = C(O) / 86-84 88-81 / 92-84 93-81 / 94-84 95-81



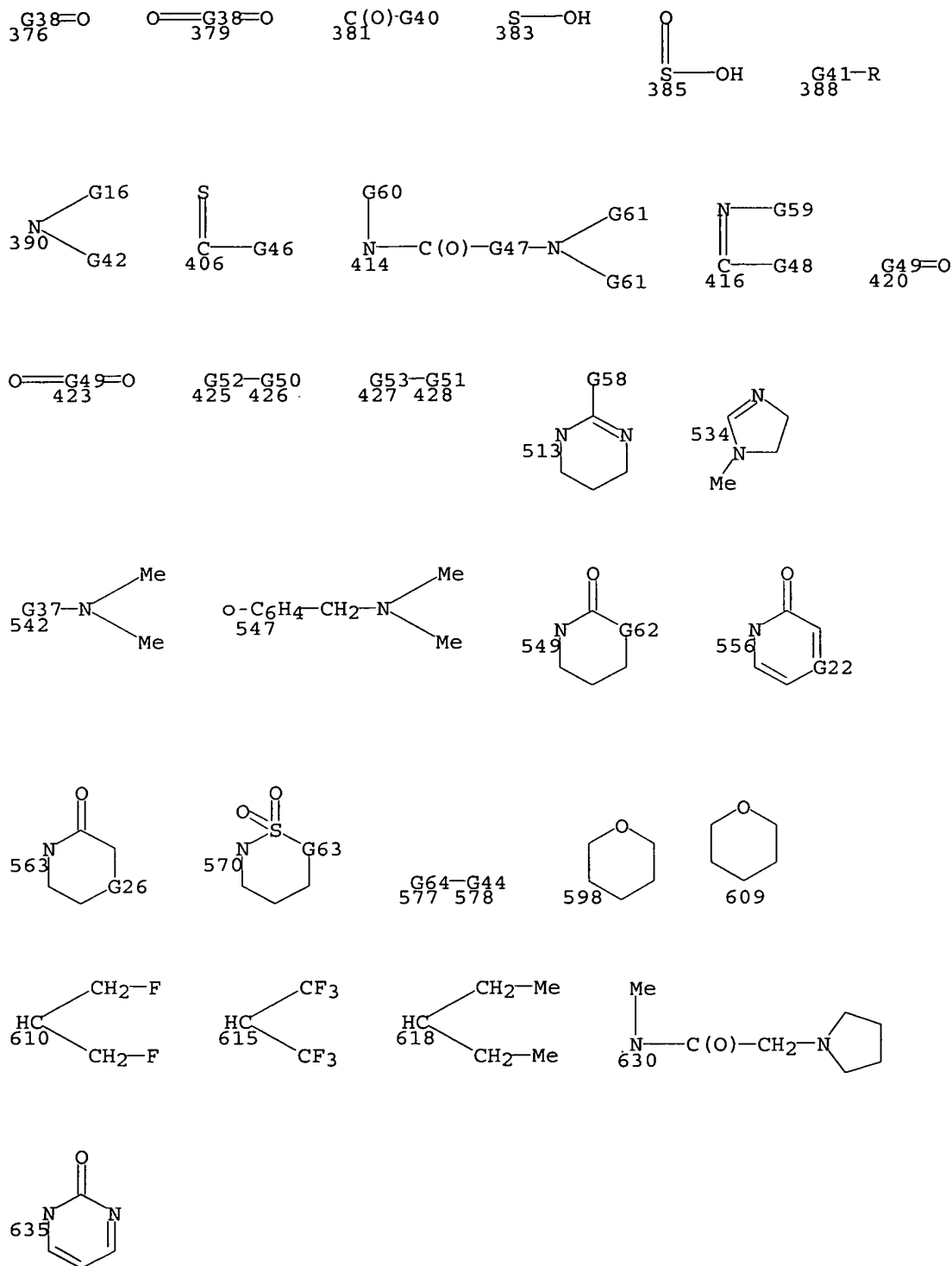
G21 = 1 or more O / S  
 G22 = CH / N  
 G23 = H / Cl / OMe / Br  
 G24 = H / Cl / OMe / F  
 G25 = H / Cl / OMe  
 G26 = O / NH  
 G27 = H / Cl / Me / OMe  
 G28 = S / NH  
 G29 = Cl / Me / F  
 G30 = O / CH=CH / S  
 G31 = H / SO<sub>2</sub>NH<sub>2</sub> / SO<sub>2</sub>Me / CH<sub>2</sub>NH<sub>2</sub> / CONH<sub>2</sub>  
 G32 = Cl / OMe  
 G33 = carbocycle <containing 3-10 C> (opt. substd.) /  
 heterocycle <containing 5-12 atoms, 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.) / 326  
 /  
 329 / (Specifically claimed: 331-3 334-5 / 337-3 340-5 /  
 343-3 346-5 / 349-3 352-5 / 359-3 362-5 / 367-3 370-5 )



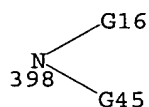
G34 = carbocycle <containing 3-10 C> (opt. substd.) /  
 heterocycle <containing 5-12 atoms, 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.)  
 G35 = H / F  
 G36 = alkyl <containing 3 or more C> (opt. substd.) /  
 390 / 381 / 385 / 388 / SO<sub>2</sub>NH<sub>2</sub> (opt. substd.) /  
 carbocycle <containing 3-10 C> (opt. substd.) /  
 heterocycle <containing 3-10 atoms, 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.) / 376 /  
 379 / alkyl <containing 1-6 C> /  
 alkyl <containing 1-4 C> (substd. by 1 or more G39) / CN /  
 SH / 383 / OH / 406 / 425 / 427 / 414 / 416 /  
 any ring <containing 5-8 atoms, 0-4 heteroatoms,  
 zero or more N, up to 2 O, up to 2 S (no other heteroatoms),



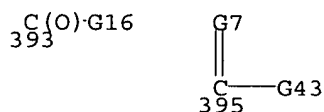
1 or more double bonds> (opt. substd.) / 420 / 423 /  
 (Specifically claimed: 513 / 534 / 542 / 547 / 549 / 556 /  
 563 / 570 / 577 / morpholino / Pr-i / NMe2 / Me / Et / Pr-n /  
 Bu-s / Bu-t / Bu-i / SO2Me / cyclopropyl / cyclobutyl /  
 cyclopentyl / 2-tetrahydropyranyl / 598 / 609 / 610 / 615 /  
 618 / 2-pyridyl / 630 / 635)



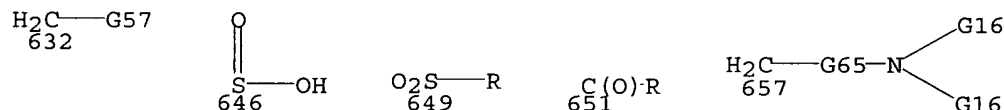
G37 = C(O) / SO2  
 G38 = carbocycle <containing 3-10 C> (opt. substd.) /  
 heterocycle <containing 3-10 atoms, 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.)  
 G39 = F / Cl / Br / I  
 G40 = NH2 (opt. substd.) / H / R / OH (opt. substd.) /  
 398



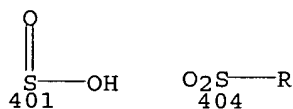
G41 = S / S(O) / SO2 / O  
 G42 = H / R / 393 / 395



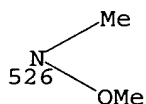
G43 = NH2 (opt. substd.)  
 G44 = R / 632 / 646 / 649 / NH2 (opt. substd.) / 651 /  
 657 / heterocycle <containing 5-6 atoms, 1-2 heteroatoms,  
 1 or more N, 0-1 O, 0-1 S (no other heteroatoms),  
 5- to 6-membered monocyclic ring> (opt. substd.)



G45 = 401 / 404

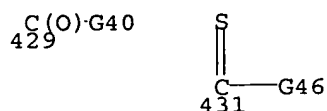


G46 = H / R / OH (opt. substd.)  
 G47 = (1-4) CH2 (opt. substd.)  
 G48 = NH2 (opt. substd.) / Me (opt. substd.) /  
 (Specifically claimed: pyrrolidino / NMe2 / 526)

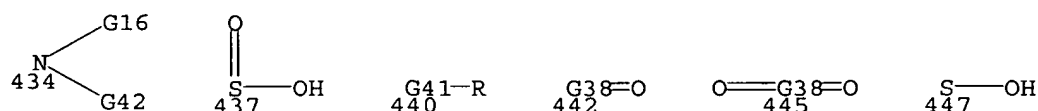


G49 = any ring <containing 5-8 atoms, 0-4 heteroatoms,  
 zero or more N, up to 2 O, up to 2 S (no other heteroatoms),  
 1 or more double bonds> (opt. substd.)  
 G50 = alkyl <containing 3 or more C> (opt. substd.) /

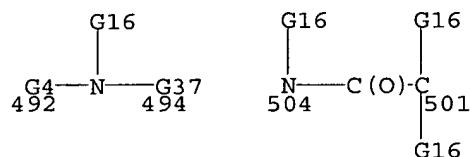
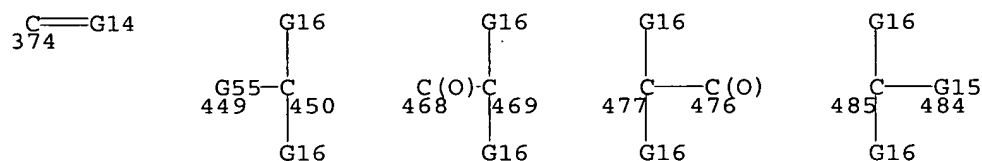
429 / alkyl <containing 1-6 C> /  
 alkyl <containing 1-4 C> (substd. by 1 or more G39) / CN /  
 431



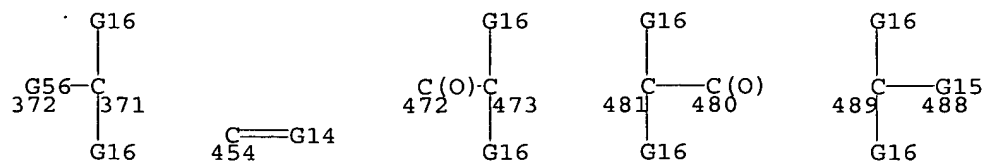
G51 = 434 / 437 / 440 / SO<sub>2</sub>NH<sub>2</sub> (opt. substd.) /  
 carbocycle <containing 3-10 C> (opt. substd.) /  
 heterocycle <containing 3-10 atoms, 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.) / 442 /  
 445 / SH / 447 / OH

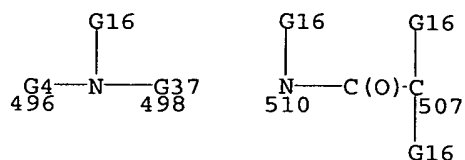


G52 = G47 / alkenylene <containing 2 or more C>  
 (opt. substd.) / 374 / 449-4 450-426 / 468-4 469-426 /  
 477-4 476-426 / S(O) / SO<sub>2</sub> / 485-4 484-426 /  
 492-4 494-426 / 504-4 501-426



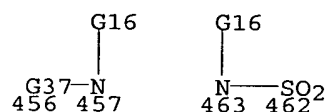
G53 = G47 / alkenylene <containing 2 or more C>  
 (opt. substd.) / 454 / 372-4 371-428 / 472-4 473-428 /  
 481-4 480-428 / S(O) / SO<sub>2</sub> / 489-4 488-428 /  
 496-4 498-428 / 510-4 507-428



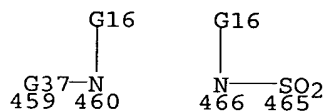


G54 = (0-2) CH2

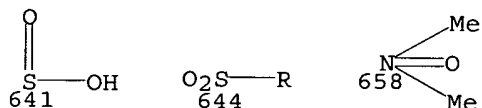
G55 = S / S(O) / SO2 / 456-4 457-450 / 463-4 462-450 / NH (opt. substd.) / O



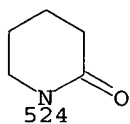
G56 = S / S(O) / SO2 / 459-4 460-371 / 466-4 465-371 / NH (opt. substd.) / O



G57 = NH2 (opt. substd.) / 641 / 644 / OH (opt. substd.) / 658



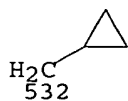
G58 = H / Me / Et / Pr-i / Ph / NH2 / NHSO2Me / NHCOMe / OMe / 524



G59 = H / R / (Specifically claimed: SO2Me / OMe)

G60 = H / R / (Specifically claimed: Me)

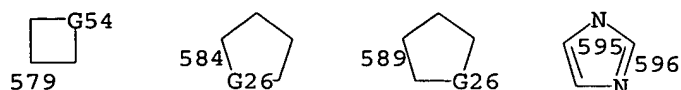
G61 = H / R / (Specifically claimed: Me / Et / 532 / cyclobutyl / cyclopentyl / cyclohexyl / Pr-i)



G62 = CH2 / CH2CH2 / NH

G63 = CH2 / NH

G64 = 579 / CMe2 / 584 / 589 / o-C6H4 / 595-4 596-578



G65 = C(O) / CH2

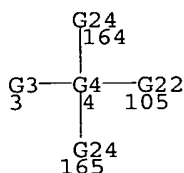
Patent location: claim 1  
 Note: or pharmaceutically acceptable salts  
 Note: additional derivatization also claimed  
 Stereochemistry: or stereoisomers

L71 ANSWER 19 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

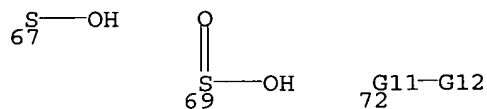
ACCESSION NUMBER: 142:373856 MARPAT  
 TITLE: Preparation of quinolines and quinazolines as inhibitors of c-Met and other tyrosine kinases and therapeutic uses against proliferative diseases  
 INVENTOR(S): Bannen, Lynne Canne; Chan, Diva Sze-ming; Chen, Jeff; Dalrymple, Lisa Esther; Forsyth, Timothy Patrick; Huynh, Tai Phat; Jammalamadaka, Vasu; Khoury, Richard George; Leahy, James William; Mac, Morrison B.; Mann, Grace; Mann, Larry W.; Nuss, John M.; Parks, Jason Jevious; Takeuchi, Craig Stacy; Wang, Yong; Xu, Wei  
 PATENT ASSIGNEE(S): Exelixis, Inc., USA  
 SOURCE: PCT Int. Appl., 428 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005030140	A2	20050407	WO 2004-US31523	20040924
WO 2005030140	A3	20050519		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2004275842	A1	20050407	AU 2004-275842	20040924
CA 2537812	AA	20050407	CA 2004-2537812	20040924
EP 1673085	A2	20060628	EP 2004-789057	20040924
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
PRIORITY APPLN. INFO.:			US 2003-506181P	20030926
			US 2004-535377P	20040109
			US 2004-577384P	20040604
			WO 2004-US31523	20040924
AB The present invention provides compds. (shown as I; variables defined below; e.g. N-[4-[[7-[[2-(diethylamino)ethyl]oxy]-6-(methyloxy)quinolin-4-yl]oxy]-3-fluorophenyl]-N'-(4-fluorophenyl)cyclopropane-1,1-dicarboxamide				

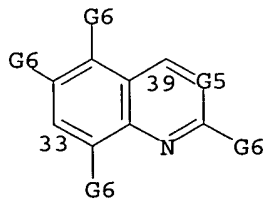
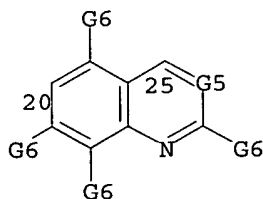
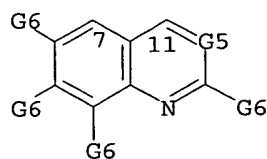
(shown as II)) for modulating protein kinase enzymic activity for modulating cellular activities such as proliferation, differentiation, programmed cell death, migration and chemoinvasion. More specifically, the invention provides quinazolines and quinolines which inhibit, regulate and/or modulate kinase receptors, particularly c-Met, KDR, c-Kit, flt-3 and flt-4, signal transduction pathways related to the changes in cellular activities as mentioned above, compns. which contain these compds., and methods of using them to treat kinase-dependent diseases and conditions. The present invention also provides methods for making compds. as mentioned above, and compns. which contain these compds. For I: R1 = H, halogen, OR3, NO2, NH2, NR3R4, and (un)substituted lower alkyl; A1 = :N-, :C(H)-, and :C(CN)-; Z = -S(O)O-2-, -O-, and -NR5-; Ar is aryl or heteroaryl; D = -O-, -S(O)O-2-, and -NR15-; R50 = R3 or bicyclic radical; addnl. details are given in the claims. Methods of preparation are claimed and .apprx.80 example prepns. of I and intermediates are included. For example, II was prepared (34 %) from 2-(diethylamino)ethanol and cyclopropane-1,1-dicarboxylic acid N-[3-fluoro-4-[(7-hydroxy-6-methoxyquinolin-4-yl)oxy]phenyl]amide N-(4-fluorophenyl)amide, which was prepared (89 %) by deprotection of cyclopropane-1,1-dicarboxylic acid N-[4-[(7-benzyloxy-6-methoxyquinolin-4-yl)oxy]-3-fluorophenyl]amide N-(4-fluorophenyl)amide, which was prepared (48 %) from trifluoromethanesulfonic acid 7-benzyloxy-6-methoxyquinolin-4-yl ester and cyclopropane-1,1-dicarboxylic acid N-(3-fluoro-4-hydroxyphenyl)amide N-(4-fluorophenyl)amide, which was prepared (85 %) by deprotection of cyclopropane-1,1-dicarboxylic acid N-(4-benzyloxy-3-fluorophenyl)amide N-(4-fluorophenyl)amide, which was prepared (98 %) from (4-benzyloxy-3-fluorophenyl)amine and 1-(4-fluorophenylcarbamoyl)cyclopropanecarboxylic acid; addnl. details are given in the examples.

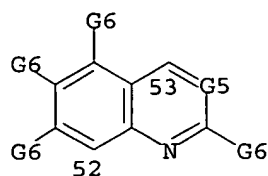
**MSTR 1**

G1 = OH / SH / 67 / 69 / NH2 / 72 / H

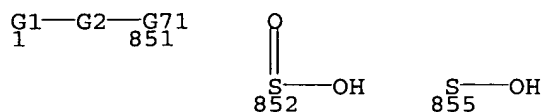


G2 = 7-1 11-851 / 20-1 25-851 / 33-1 39-851 /  
52-1 53-851

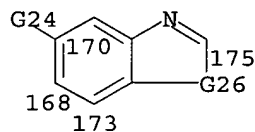
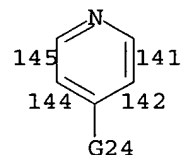
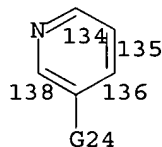
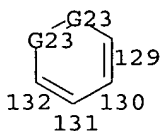
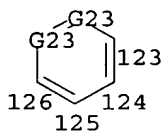
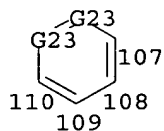




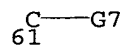
G3 = 851 / OH / SH / NH2 / 852 / 855 /  
R <"protecting group or salt">



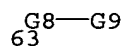
G4 = 110-3 109-105 107-164 108-165 /  
126-3 124-105 123-164 125-165 /  
132-3 129-105 130-164 131-165 /  
138-3 134-105 135-164 136-165 /  
144-3 145-105 141-164 142-165 /  
168-3 175-105 170-164 173-165



G5 = N / 61



G6 = H / F / Cl / Br / I / OH / NO2 / NH2 /  
carbon chain <containing 1-6 C> /  
carbocycle <containing 3-6 C> / 63 /  
heterocycle <containing 5-7 atoms, 1 or more N,  
zero or more O, zero or more S,  
zero or more P (no other heteroatoms), attached through 1 N>  
/ (Specifically claimed: OMe)



G7 = H / CN / F / Cl / Br / I

G8 = NH / O / 65

$\begin{array}{c} \text{N} \\ | \\ \text{65} \end{array} \text{---G9}$

G9 = carbon chain <containing 1-6 C>  
(opt. substd. by 1 or more G10) /  
carbocycle <containing 3-6 C> (opt. substd. by G10) /  
aryl <containing 6-14 C> / heterocycle <containing 3-15  
atoms, zero or more N, zero or more O, zero or more S,  
zero or more P (no other heteroatoms)>  
G10 = any ring <containing 3-15 atoms, zero or more N,  
zero or more O, zero or more S,  
zero or more P (no other heteroatoms)>  
G11 = O / S / S(O) / SO<sub>2</sub> / NH (opt. substd.)  
G12 = carbon chain <containing 1-6 C>  
(opt. substd. by 1 or more G10) /  
carbocycle <containing 3-6 C> (opt. substd. by G10) /  
aryl <containing 6-14 C> / heterocycle <containing 3-15  
atoms, zero or more N, zero or more O, zero or more S,  
zero or more P (no other heteroatoms)> /  
any ring <containing 4 or more atoms, zero or more N,  
zero or more O, zero or more S,  
zero or more P (no other heteroatoms), non-aromatic,  
2 or more fusion atoms, polycyclic> (opt. substd. by G13) /  
74 / 103 / (Specifically claimed: G50)

$\begin{array}{c} \text{G14=O} \\ | \\ \text{74} \end{array} \quad \begin{array}{c} \text{G20-G21} \\ | \\ \text{103} \end{array}$

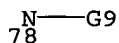
G13 = F / Cl / Br / I / 121 / CN / NH<sub>2</sub> / NO<sub>2</sub> / OH / NH<sub>2</sub> /  
76 / heterocycle <containing 5-7 atoms, 1 or more N,  
zero or more O, zero or more S,  
zero or more P (no other heteroatoms), attached through 1 N>  
/ 80 / CO<sub>2</sub>H / 86 / 89 / CHO / 98 /  
carbon chain <containing 1-6 C>  
(opt. substd. by 1 or more G10) /  
carbocycle <containing 3-6 C> (opt. substd. by G10) /  
aryl <containing 6-14 C> / heterocycle <containing 3-15  
atoms, zero or more N, zero or more O, zero or more S,  
zero or more P (no other heteroatoms)>

$\begin{array}{c} \text{G15-G9} \\ | \\ \text{76} \end{array} \quad \begin{array}{c} \text{G16-G17} \\ | \\ \text{80} \end{array} \quad \begin{array}{c} \text{C(O)-O---G9} \\ | \\ \text{86} \end{array} \quad \begin{array}{c} \text{G18-G19} \\ | \\ \text{89} \end{array} \quad \begin{array}{c} \text{C(O)-G9} \\ | \\ \text{98} \end{array}$

$\begin{array}{c} \text{G25} \\ | \\ \text{G25-C-G25} \\ | \\ \text{121} \end{array}$

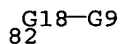
G14 = any ring <containing 4 or more atoms,  
zero or more N, zero or more O, zero or more S,  
zero or more P (no other heteroatoms), non-aromatic,  
2 or more fusion atoms, polycyclic>  
G15 = NH / O / 78 / S / S(O) / SO<sub>2</sub>



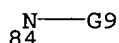


G16 = C(O) / SO2

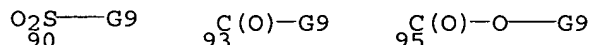
G17 = NH2 / 82 / heterocycle <containing 5-7 atoms,  
1 or more N, zero or more O, zero or more S,  
zero or more P (no other heteroatoms), attached through 1 N>



G18 = NH / 84

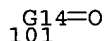


G19 = 90 / CHO / 93 / CO2H / 95

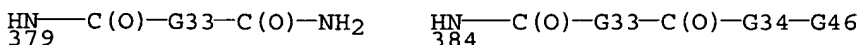
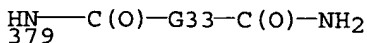
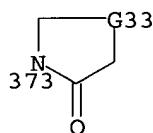
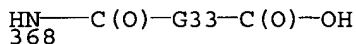
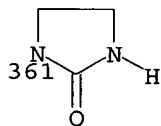
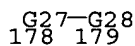


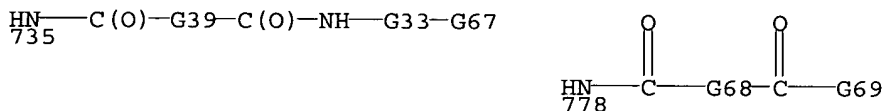
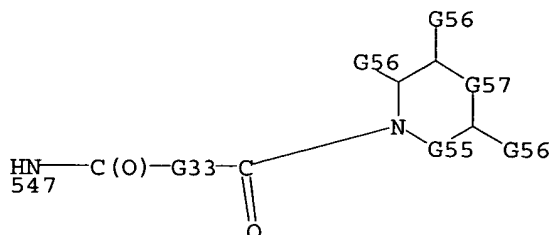
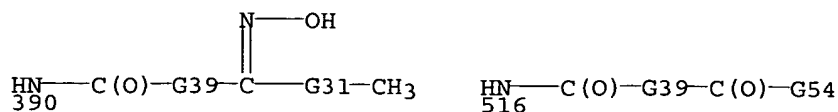
G20 = carbon chain <containing 1-6 C> ./  
carbocycle <containing 3-6 C> / (Specifically claimed: G59)

G21 = carbocycle / any ring <containing 4 or more atoms,  
zero or more N, zero or more O, zero or more S,  
zero or more P (no other heteroatoms), non-aromatic,  
2 or more fusion atoms, polycyclic> (opt. substd. by G13) /  
101 / (Specifically claimed: G50)

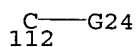


G22 = H / R / any ring <containing 5-10 atoms,  
zero or more N, zero or more O, zero or more S,  
zero or more P (no other heteroatoms)>  
(opt. substd. by (1-4) G30) / 178 /  
(Specifically claimed: Ph / pyridyl / 361 / 368 / 373 / 379 /  
384 / 390 / 516 / 547 / 735 / 778)

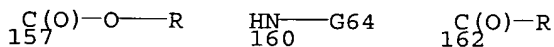
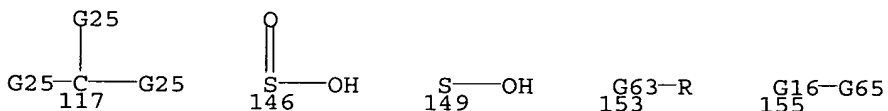




G23 = N / 112



G24 = H / F / Cl / Br / I / 117 / CN / NO<sub>2</sub> / NH<sub>2</sub> / OH /  
SH / 146 / 149 / 153 / 155 / CO<sub>2</sub>H / 157 / 160 / CHO / 162

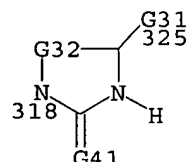
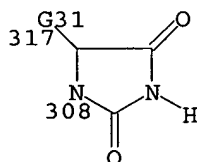
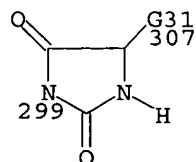
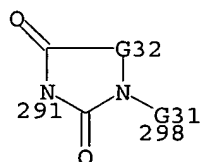
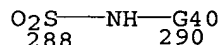
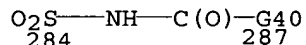
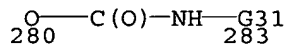
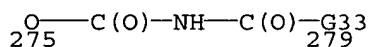
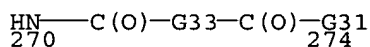
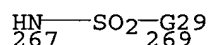
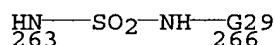
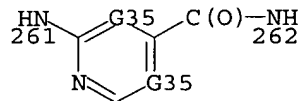
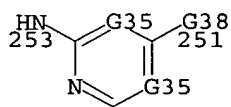
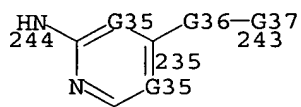
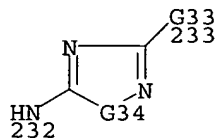
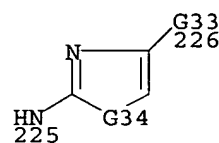
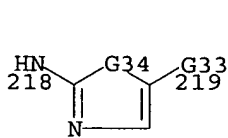
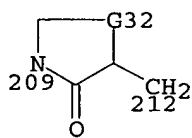
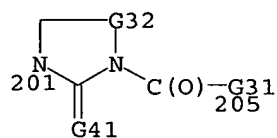
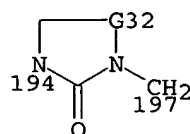
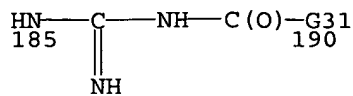
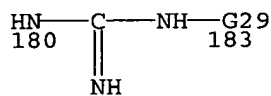


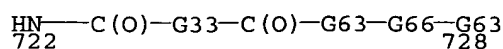
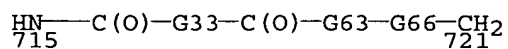
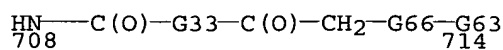
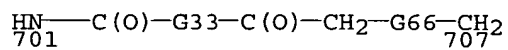
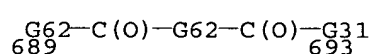
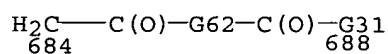
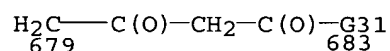
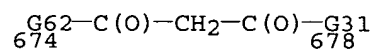
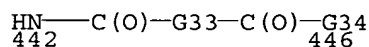
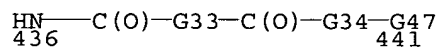
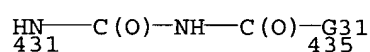
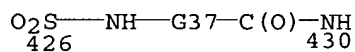
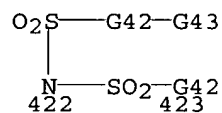
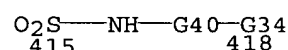
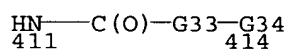
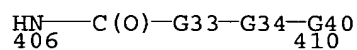
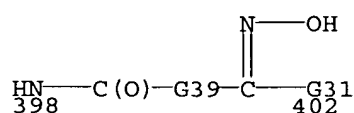
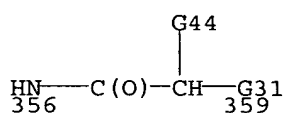
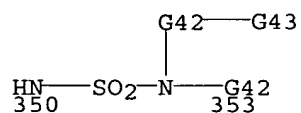
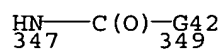
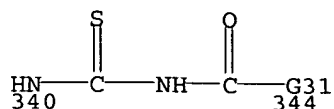
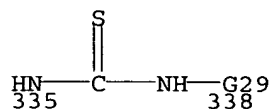
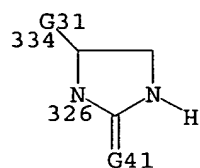
G25 = F / Cl / Br / I

G26 = S / S(O) / SO<sub>2</sub> / O / NH

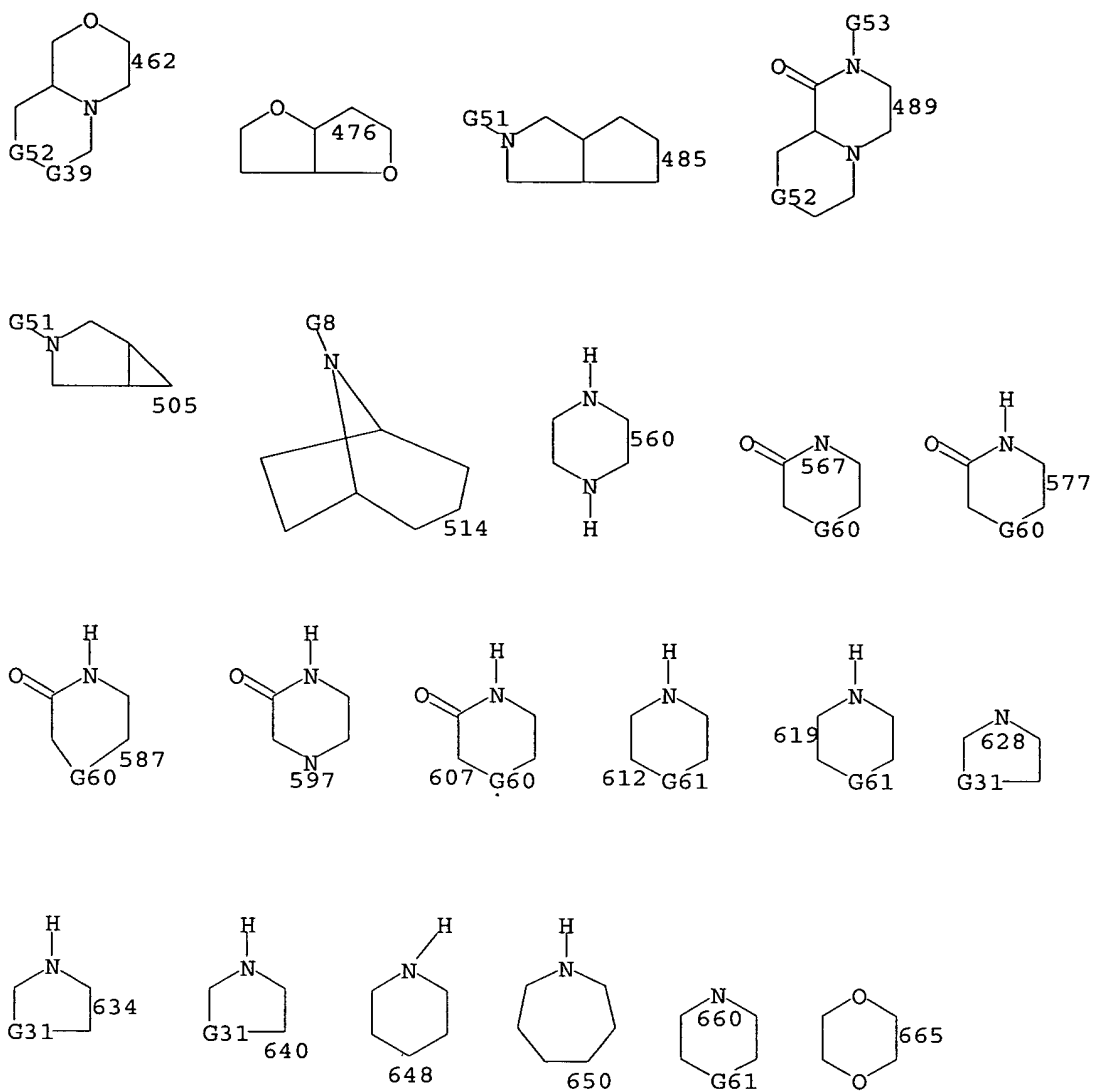
G27 = R <"linking group"> / (Specifically claimed: 180-4  
183-179 / 185-4 190-179 / 194-4 197-179 / 201-4 205-179 /  
209-4 212-179 / 218-4 219-179 / 225-4 226-179 /  
232-4 233-179 / 244-4 243-179 / 253-4 251-179 /  
261-4 262-179 / 263-4 266-179 / 267-4 269-179 /  
270-4 274-179 / 275-4 279-179 / 280-4 283-179 /  
284-4 287-179 / 288-4 290-179 / 291-4 298-179 /  
299-4 307-179 / 308-4 317-179 / 318-4 325-179 /  
326-4 334-179 / 335-4 338-179 / 340-4 344-179 /  
347-4 349-179 / 350-4 353-179 / 356-4 359-179 /  
398-4 402-179 / 406-4 410-179 / 411-4 414-179 /

415-4 418-179 / 422-4 423-179 / 426-4 430-179 /  
 431-4 435-179 / 436-4 441-179 / ~~442-4~~ ~~446-179~~ /  
 674-4 678-179 / 679-4 683-179 / 684-4 688-179 /  
 689-4 693-179 / 701-4 707-179 / 708-4 714-179 /  
 715-4 721-179 / 722-4 728-179 / 729-4 734-179 )

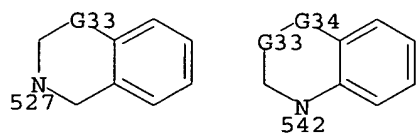








G51 = Me / Et  
 G52 = O / NH / CH<sub>2</sub> / S / S(O) / SO<sub>2</sub> / bond  
 G53 = H / carbon chain / carbocycle  
 G54 = 527 / 542 / NH<sub>2</sub>



G55 = (0-2) 552

HC—G56  
552

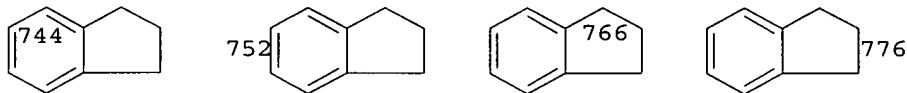
G56 = H / Ph / CH<sub>2</sub>Ph / CH<sub>2</sub>CH<sub>2</sub>Ph  
 G57 = O / 557 / S / S(O) / SO<sub>2</sub>

~~G58-G56~~  
~~557~~

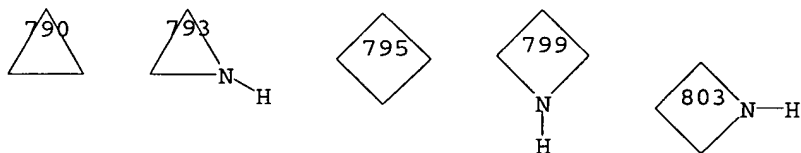
G58 = N / CH  
 G59 = (1-4) CH<sub>2</sub>  
 G60 = NH / O / S / S(O) / SO<sub>2</sub>  
 G61 = O / S / S(O) / SO<sub>2</sub>  
 G62 = O / NH / S / S(O) / SO<sub>2</sub>  
 G63 = NH / O / S / S(O) / SO<sub>2</sub>  
 G64 = 694 / CHO / 696 / CO<sub>2</sub>H / 698

$\text{O}_2\text{S}-\text{R}$        $\text{C}(\text{O})-\text{R}$        $\text{C}(\text{O})-\text{O}-\text{R}$   
 694                  696                  698

G65 = NH<sub>2</sub> / heterocycle <containing 5-7 atoms,  
 1 or more N, zero or more O, zero or more S,  
 zero or more P (no other heteroatoms), attached through 1 N>  
 G66 = (2-3) CH<sub>2</sub>  
 G67 = 744 / 752 / 766 / 776

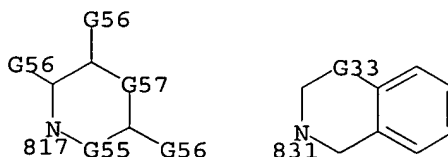


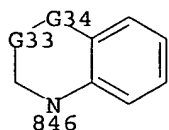
G68 = any ring <containing zero or more N,  
 zero or more O, zero or more S,  
 zero or more P (no other heteroatoms),  
 attached through 1 atom> / 790 / 793 / 795 / 803 / 799



G69 = NH<sub>2</sub> / 810 / 816 / 817 / 831 / 846

$\text{HN}-\text{G31}-\text{G70}$        $\text{HN}-\text{C}(\text{O})-\text{G31}-\text{G43}$   
 810                      816





G70 = any ring <containing 5-10 atoms, zero or more N,  
zero or more O, zero or more S,  
zero or more P (no other heteroatoms)> / Ph  
G71 = O / S / S(O) / SO<sub>2</sub> / NH  
Patent location: claim 1  
Note: substitution is restricted  
Note: also incorporates claim 115, formulae 21 and 23  
Note: additional substitution also claimed  
Note: or pharmaceutically acceptable salts, hydrates, or  
prodrugs

L71 ANSWER 20 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 142:355054 MARPAT  
TITLE: Preparation of amide derivatives as inhibitors of  
histone deacetylase  
INVENTOR(S): Moradei, Oscar; Paquin, Isabelle; Leit, Silvana;  
Frechette, Sylvie; Vaisburg, Arkadii; Besterman,  
Jeffrey M.; Tessier, Pierre; Mallais, Tammy C.  
PATENT ASSIGNEE(S): Methylgene, Inc., Can.  
SOURCE: PCT Int. Appl., 559 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 2  
PATENT INFORMATION:

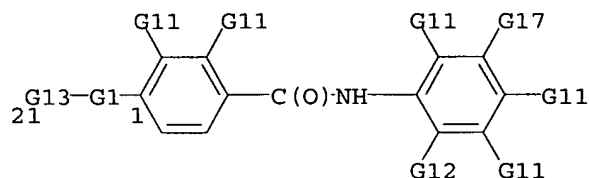
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005030705	A1	20050407	WO 2004-US31591	20040924
WO 2005030705	C2	20060420		
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RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2004276337	A1	20050407	AU 2004-276337	20040924
EP 1663953	A1	20060607	EP 2004-789074	20040924
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
PRIORITY APPLN. INFO.:				
			US 2003-505884P	20030924
			US 2003-532973P	20031229
			US 2004-561082P	20040409
			WO 2004-US31591	20040924

AB Title compds. I [Arl = (un)saturated-, (un)substituted-mono or fused  
poly-cyclic hydrocarbonyl optionally containing 1-4 heteroatoms per ring; R1 =

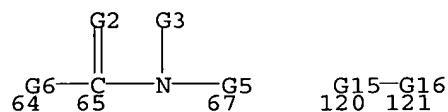
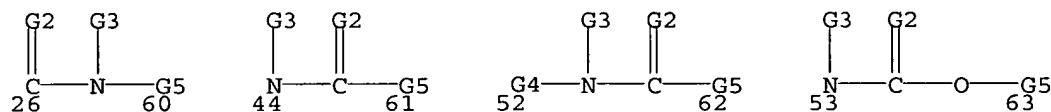


(un)substituted-mono-, -bi-, -tri-cyclic-aryl or -heteroaryl; R2, R3, and R4 independently = H, halo, amino, etc.; R5 and R6 independently = H, alkyl, aryl, etc.; x = 0-1; Y = any pharmaceutically acceptable chemical moiety consisting of 1 to 50 atoms with provisions] and their pharmaceutically acceptable salts, are prepared and disclosed as inhibitors of histone deacetylase. Thus, e.g., II was prepared by Suzuki coupling of 2-bromo-2-nitro-phenylamine (preparation given) with 2-thiopheneboronic acid followed by carbonylation with 4-[3,4-dimethoxy-(phenylamino)-methyl]benzoic acid (preparation given) and subsequent reduction. The inhibitory capability of I towards antiproliferative activity of histone deacetylase enzyme was evaluated using 3-[4,5-dimethylthiazol-2-yl-2,5-diphenyltetrazolium] bromide (MTT) assay and it revealed that certain compds. of the invention had MTT IC 50 values in the range of below 1 up to 20  $\mu$ M. I as histone deacetylase inhibitors should prove useful in the treatment of diseases such as, but not limited to, cell proliferative disease, protozoal disease, and fungal disease.

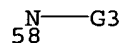
## MSTR 5



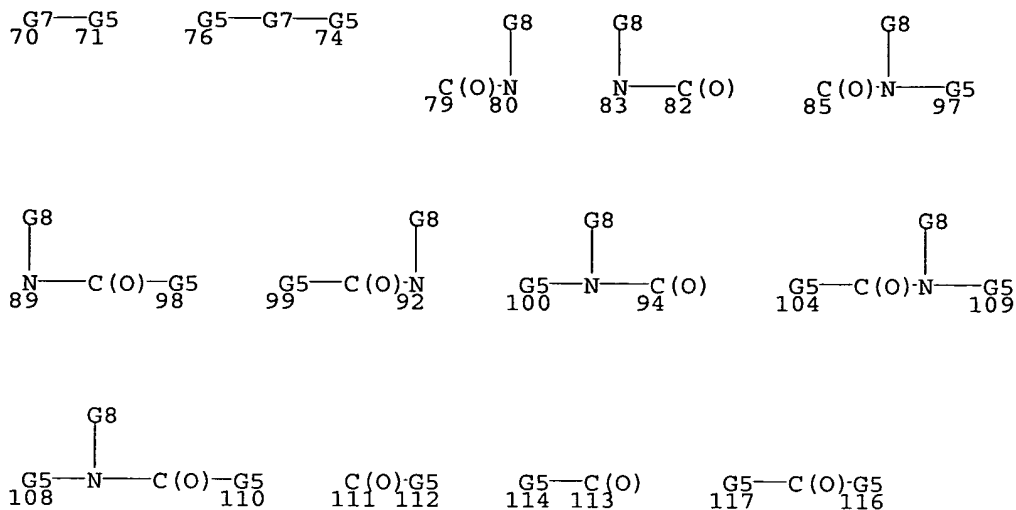
G1 = 26-21 60-1 / 44-21 61-1 / 52-21 62-1 /  
53-21 63-1 / **64-21 67-1** / 120-21 121-1



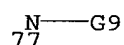
G2 = O / S  
G3 = H / alkyl <containing 1-4 C> (opt. substd.)  
G4 = O / 58



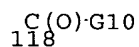
G5 = (1-4) CH2  
G6 = G5 / 70-21 71-65 / 76-21 74-65 / C(O) /  
79-21 80-65 / 83-21 82-65 / 85-21 97-65 / **89-21 98-65** /  
99-21 92-65 / 100-21 94-65 / 104-21 109-65 /  
108-21 110-65 / 111-21 112-65 / 114-21 113-65 /  
117-21 116-65



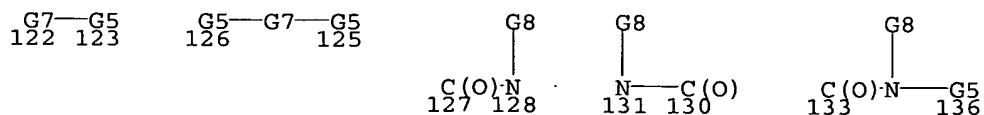
G7 = 77 / O / S

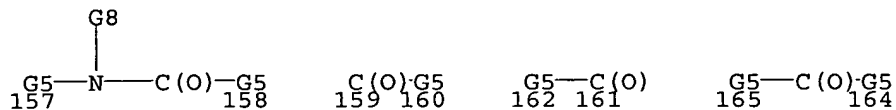
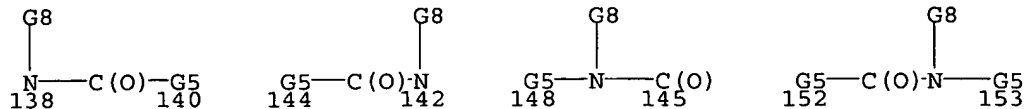


G8 = H / alkyl <containing 1-4 C> (opt. substd.)  
 G9 = H / alkyl <containing 1-4 C> (opt. substd.) / 118

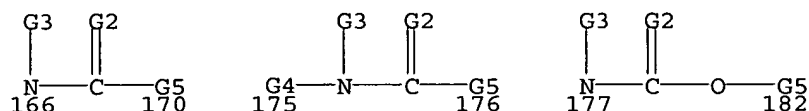


G10 = alkyl <containing 1-4 C> /  
 perfluoroalkyl <containing 1-4 C> / Ph (opt. substd.) /  
 pyridyl (opt. substd.)  
 G11 = H / R  
 G12 = NH2 / OH  
 G13 = pyridyl (opt. substd. by 1 or more G14) /  
 heterocycle <containing 1 or more N, aromatic,  
 6 or more normalized bonds, bicyclic,  
 1 or more 5-membered rings> (opt. substd. by 1 or more G14)  
 G14 = F / Cl / Br / I / NH2 / NO2 / OH / CN /  
 alkyl <containing 1-4 C> / alkoxy <containing 1-4 C> /  
 alkyl <containing 1-4 C> (substd. by NH2) /  
 alkylamino <containing 1-4 C> / acyl / acylamino /  
 alkylthio <containing 1-4 C> / perfluoroalkyl <containing  
 1-4 C> / perfluoroalkyloxy <containing 1-4 C> / CO2H /  
 alkoxy carbonyl <containing 1-4 C>  
 G15 = G5 / C(O) / 122-21 123-121 / 126-21 125-121 /  
 127-21 128-121 / 131-21 130-121 / 133-21 136-121 /  
 138-21 140-121 / 144-21 142-121 / 148-21 145-121 /  
 152-21 153-121 / 157-21 158-121 / 159-21 160-121 /  
 162-21 161-121 / 165-21 164-121





G16 = 166-120 170-1 / 175-120 176-1 / 177-120 182-1



G17 = H / aryl <containing 6-14 C, 1-3 rings>  
 (opt. substd.) / heteroaryl <containing 5-14 atoms,  
 zero or more C, zero or more O,  
 zero or more S (no other heteroatoms), non-aromatic,  
 1-3 rings> (opt. substd.)

Derivative: and pharmacologically acceptable salts

Patent location: claim 403

Note: substitution is restricted

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 21 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 142:331567 MARPAT

TITLE: Synthesis of nucleic acid labeling compound for  
 detection of SNP

INVENTOR(S): Saito, Akira; Okamoto, Akimichi; Ichiba, Tomohisa;  
 Yamane, Akio

PATENT ASSIGNEE(S): Wakunaga Pharmaceutical Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 22 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

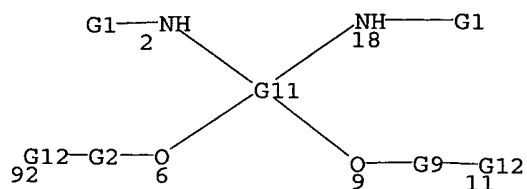
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

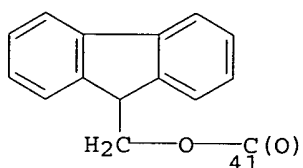
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005073605	A2	20050324	JP 2003-309026	20030901
PRIORITY APPLN. INFO.:			JP 2003-309026	20030901

AB This invention provides a process of synthesis of nucleic acid labeling compound (I, R1, R2 = a FRET pair; R3, R4 = protecting group; R5, R6 = C1-10-alkyl; L2, L3 = (CH2)m, m = 1-20; L4, L5 = (CH2)n, n = 0-6; Z1-L1-Z2 = CH-(CH2)p-CO-N, N-CO-(CH2)p-CH, N-CO-(CH2)p-(CO)q-N, N-(CO)q-(CH2)p-CO-N, CH-(CH2)p-CH, p = 0-10, q = 0-1). The invention also provides nucleic acids labeled with I. The labeled nucleic acid provided in this invention can be used for detection of SNP in target genes.

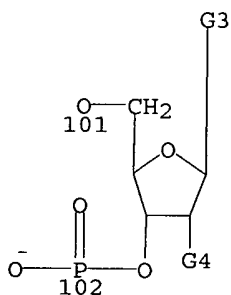
## MSTR 2



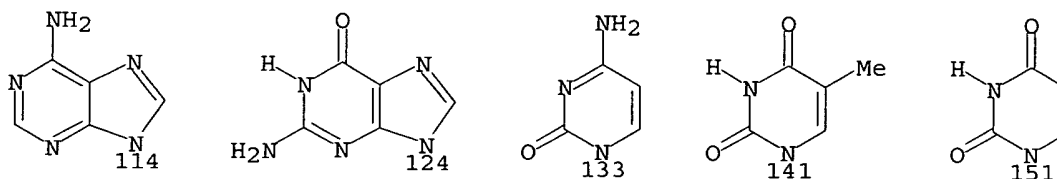
G1 = R <"FRET pair or amine protecting group"> /  
(Specifically claimed: COCF3 / 41)



G2 = R <"oligonucleotide unit"> / **bond** /  
(Specifically claimed: 101-92 102-6 )

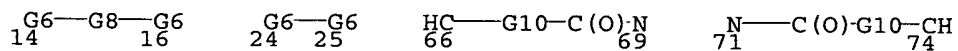


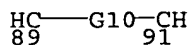
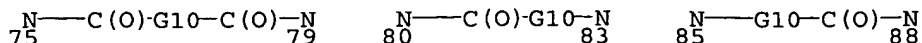
G3 = 114 / 124 / 133 / 141 / 151



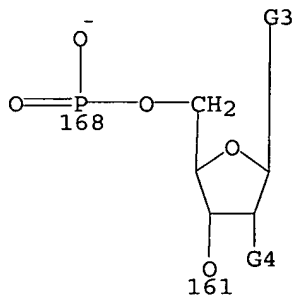
G4 = H / OH / alkoxy <containing 1-4 C>

G5 = 14-3 16-5 14-17 16-8 / 24-3 25-5 24-17 25-8 /  
(Specifically claimed: 66-3 69-5 66-17 69-8 /  
71-3 74-5 71-17 74-8 / 75-3 79-5 75-17 79-8 /  
80-3 83-5 80-17 83-8 / 85-3 88-5 85-17 88-8 /  
89-3 91-5 89-17 91-8 )

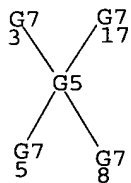




- G6 = N / CH  
 G7 = carbon chain <containing 1-20 C, no triple bonds> /  
     R <containing zero or more O, zero or more N,  
     0 or more double bonds, no triple bonds>  
 G8 = carbon chain <containing 1-20 C, no triple bonds> /  
     R <containing zero or more O, zero or more N,  
     0 or more double bonds, no triple bonds>  
 G9 = R <"oligonucleotide unit"> / bond /  
     (Specifically claimed: 168-9 161-11 )



- G10 = (0-10) CH2  
 G11 = 3-2 17-18 5-6 8-9 / carbon chain <0 or more double  
     bonds, no triple bonds> (opt. substd.) /  
     R <containing zero or more N, zero or more O,  
     zero or more S, 0 or more double bonds, no triple bonds>  
     (opt. substd.)



- G12 = H / R <"hydroxy protecting group"> /  
     PO3H2 (opt. substd.)

Patent location: claim 1

L71 ANSWER 22 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 142:298332 MARPAT

TITLE: Preparation of arylpiperidine amino acid derivatives  
 as VLA-1 integrin antagonists

INVENTOR(S): Boyd, Steven A.; Demeese, Jason; Gunawardana, Indrani;

Jacobson, Irina C.; Lehuierou, Yvan; Lupher, Mark L., Jr.; McLaughlin, Martin; Miller, Scott; Thomas, Allen; Thorsett, Eugene; Xu, Rui; Yanik, Matthew; Zhang, Gan

PATENT ASSIGNEE(S): Icos Corporation, USA

SOURCE: PCT Int. Appl., 275 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005019200	A2	20050303	WO 2004-US26206	20040812
<p>W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW</p> <p>RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG</p>				

PRIORITY APPLN. INFO.: US 2003-495740P 20030814

AB The invention relates to arylpiperidines and related compds. Ar-NR2-W-Y-CR3R4R5 [Ar is (un)substituted aryl or heteroaryl; NR2 is a 4-8-membered heterocyclic group containing 1 or 2 N atoms which may be substituted by OH, alkoxy, alkylthio, halo, (un)substituted alkyl, aryl, cycloalkyl, heteroaryl or heterocyclyl; W is CONH, NHCO or thio analogs; Y is a bond or (un)substituted alkylene; R3, R4 are independently H, carboxy or carboxy ester, (un)substituted alkyl, cycloalkyl, amino, aminoacyl, acylamino, aminosulfonylamino, aminosulfonyl, sulfonylamino, heterocyclyl, aryl, heteroaryl, alkoxy, etc. or CR3R4 is (un)substituted cycloalkyl or heterocyclyl; R5 is CRA2CO2Ra, COCO2Ra, carboxy or carboxy ester, CONRaORa, CONRaSO2Ra, heterocyclyl, cyano or hydroxyalkyl, where Ra is H, alkyl, (un)substituted aryl or heterocyclyl (with the proviso that when Y is a bond and W is CONH, then R3 and/or R4 are not amino, substituted amino, hydroxy, or alkoxy)], or their pharmaceutically-acceptable salts, tautomers or prodrug, which are VLA-1 integrin antagonists and to compns. containing such compds. for use in treating diseases. The compds. exhibit a biol. activity of  $\geq 50\%$  at 50  $\mu\text{M}$ . Thus, N-[1-[4-(2,3-dichlorophenyl)-2-pyridinyl]piperidine-4-carbonyl]-L-alanine was prepared by acylation of L-alanine Me ester hydrochloride with 1-[4-(2,3-dichlorophenyl)-2-pyridinyl]piperidine-4-carboxylic acid, followed by saponification

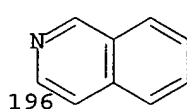
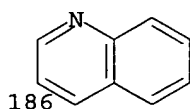
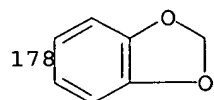
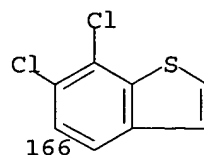
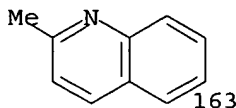
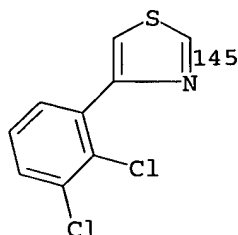
# MSTR 1

G1—G2—G7—G8—G9—G19  
 1 2 3 4

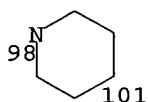
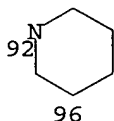
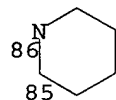
G1 = aryl <containing 6-14 C> (opt. substd.) / heteroaryl <containing 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), up to 10 C> (opt. substd.) / 7 / (Specifically claimed: pyridyl (opt. substd. by G30) /

Ph (opt. substd. by G31) / 145 / 163 / 166 / 178 / 186 / 196)

G6=O  
7



G2 = heterocycle <containing 4-8 atoms, 1-2 heteroatoms,  
1-2 N (no other heteroatoms), attached through 1 or more N,  
0 or more C> (opt. substd. by (1-3) G3) /  
(Specifically claimed: 86-1 85-3 / 92-1 96-3 / 98-1 101-3 )

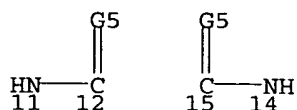


G3 = alkyl <containing 1-10 C> (opt. substd.) /  
aryl <containing 6-14 C> (opt. substd.) / 9 /  
cycloalkyl <containing 3-8 C, monocyclic> (opt. substd.) /  
heteroaryl <containing 1-4 heteroatoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms),  
up to 10 C> (opt. substd.) / heterocycle <containing 1-4  
heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms), up to 10 C,  
non-aromatic> (opt. substd.) / OH /  
alkoxy <containing 1-10 C> / alkylthio <containing 1-10 C> /  
F / Cl / Br / I / 5

G4=G5  
5

G6=O  
9

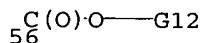
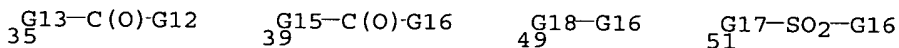
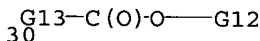
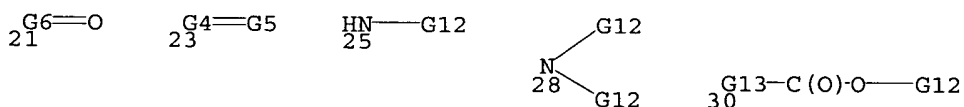
G4 = carbocycle <containing 3-8 C, non-aromatic,  
saturated, 3- to 8-membered monocyclic ring> (opt. substd.) /  
heterocycle <containing 1-4 heteroatoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms),  
up to 10 C, non-aromatic> (opt. substd.)  
G5 = O / S  
G6 = heterocycle <containing 1-4 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), 6 or more C,  
6 or more normalized bonds, 0 or more double bonds,  
polycyclic, 1 or more 6-membered rings> (opt. substd.)  
G7 = 11-2 12-4 / 15-2 14-4



- G8 = bond / alkylene <containing 1-10 C> (opt. substd.) /  
(Specifically claimed: CH2)
- G9 = alkylidene <containing 1 or more C>  
(opt. substd. by G10) / 103 / cycloalkylene <containing 3-8 C> (opt. substd.) / heterocycle <containing 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), 1-10 C, attached through 1 or more C, non-aromatic> (opt. substd.) / 19



- G10 = R / aryl <containing 6-14 C> (opt. substd.) / 21 / cycloalkyl <containing 3-8 C, monocyclic> (opt. substd.) / heteroaryl <containing 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), up to 10 C> (opt. substd.) / heterocycle <containing 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), up to 10 C, non-aromatic> (opt. substd.) / 23 / NH2 / 25 / 28 / heterocycle <containing 1 or more N, zero or more O, zero or more S (no other heteroatoms), attached through 1 or more N> (opt. substd.) / 30 / 39 / 49 / 35 / 51 / alkoxy <containing 1-10 C> (opt. substd.) / CO2H / 56



- G11 = carbocycle <containing 3-8 C, non-aromatic, saturated, 3- to 8-membered monocyclic ring> (opt. substd.) / heterocycle <containing 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), 1-10 C, attached through 1 or more C, non-aromatic> (opt. substd.)
- G12 = alkyl <containing 1-10 C> (opt. substd.) / alkenyl <containing 2-10 C> (opt. substd.) / aryl <containing 6-14 C> (opt. substd.) /



cycloalkyl <containing 3-8 C, monocyclic> (opt. substd.) /  
 heteroaryl <containing 1-4 heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 up to 10 C> (opt. substd.) / heterocycle <containing 1-4  
 heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), up to 10 C,  
 non-aromatic> (opt. substd.)

G13 = NH / 33

$\text{N} \text{---} \text{G14}$   
 33

G14 = alkyl <containing 1-10 C> (opt. substd.)

G15 = O / NH / 42

$\text{N} \text{---} \text{G12}$   
 42

G16 = NH<sub>2</sub> / 44 / 47 / heterocycle <containing 1 or more  
 N, zero or more O, zero or more S (no other heteroatoms),  
 attached through 1 or more N> (opt. substd.)

$\text{HN} \text{---} \text{G12}$   
 44

$\text{G12}$   
 $\text{N}$   
 47  
 $\text{G12}$

G17 = NH / 54

$\text{N} \text{---} \text{G12}$   
 54

G18 = C(O) / SO<sub>2</sub>

G19 = 59 / 68 / heterocycle <containing 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), up to 10 C,  
 non-aromatic> (opt. substd.) / 83 / CN /  
 alkyl <containing 1-10 C> (substd. by OH)

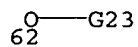
$\text{G20} \text{---} \text{C(O)} \text{---} \text{G22}$        $\text{C(O)} \text{---} \text{G24}$        $\text{G27} \text{---} \text{G5}$   
 59                      68                      83

G20 = alkylidene <containing 1 or more C>  
 (opt. substd. by G21) / C(O)

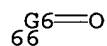
G21 = aryl <containing 6-14 C> (opt. substd.) / 64 /  
 heterocycle <containing 1-4 heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 up to 10 C, non-aromatic> (opt. substd.)

$\text{G6} \text{=O}$   
 64

G22 = OH / 62



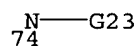
G23 = alkyl <containing 1-10 C> /  
 aryl <containing 6-14 C> (opt. substd.) / 66 /  
 heterocycle <containing 1-4 heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 up to 10 C, non-aromatic> (opt. substd.)



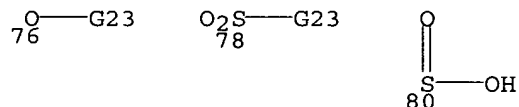
G24 = OH / 70 / 72



G25 = NH / 74

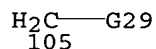


G26 = OH / 80 / 76 / 78

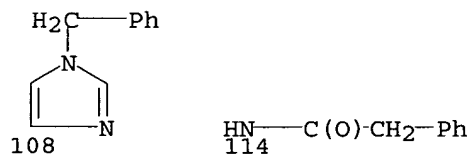


G27 = heterocycle <containing 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), up to 10 C,  
 non-aromatic> (opt. substd.)

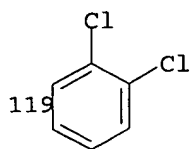
G28 = H / R / 105



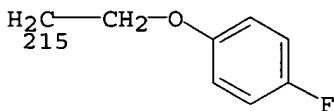
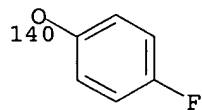
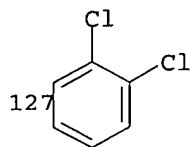
G29 = H / 108 / 114



G30 = 119 / Me / Br



G31 = 127 / Me / Et / Pr-i / CF3 / NMe2 / 140 / F / Cl /  
Bu-t / NO2 / Br / morpholino / SCF3 / OCF3 / 215



Patent location: claim 1  
Note: substitution is restricted  
Note: and pharmaceutically acceptable salts, prodrugs, or tautomers

L71 ANSWER 23 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 142:298014 MARPAT

TITLE: Preparation of dibenzoazepinylnalonamides, dibenzooxepinylnalonamides, benzodiazepinylnalonamides, and related compounds as  $\gamma$ -secretase inhibitors for treatment of Alzheimer's disease.

INVENTOR(S): Flohr, Alexander; Galley, Guido; Jakob-Roetne, Roland; Kitas, Eric Argirios; Peters, Jens-Uwe; Wostl, Wolfgang

PATENT ASSIGNEE(S): Switz.

SOURCE: U.S. Pat. Appl. Publ., 59 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005054633	A1	20050310	US 2004-933177	20040902
AU 2004270361	A1	20050317	AU 2004-270361	20040831
CA 2537440	AA	20050317	CA 2004-2537440	20040831
WO 2005023772	A1	20050317	WO 2004-EP9700	20040831
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NO 2006001047	A	20060404	NO 2006-1047	20060303

## PRIORITY APPLN. INFO.:

EP 2003-19683 20030909

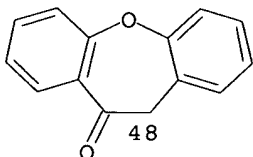
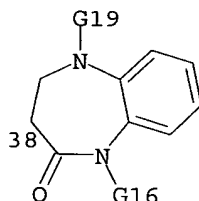
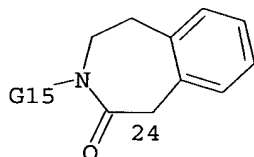
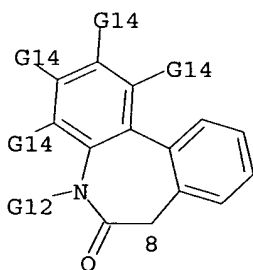
WO 2004-EP9700 20040831

AB Malonamides R1NHCOCR3R4CONHR2 [R1= Q1-Q4; R2 = alkyl, alkynyl, alkylthio, alkoxy(alkyl), halo(alkyl), etc.; R3, R4 = H, alkyl, alkoxy, Ph, halo; R5 = H, alkyl, trifluoromethyl(alkyl), cycloalkyl(alkyl); R6 = H, halo; R7 = H, alkyl; R8 = H, alkyl, alkynyl, trifluoromethyl(alkyl), cycloalkyl(alkyl), (halo-substituted) phenyl(alkyl); R9 = H, alkyl, CHO, alkylcarbonyl, F3CCO, (substituted) PhCO, etc.], were prepared Thus, 2-methyl-N-(5-methyl-6-oxo-6,7-dihydro-5H-dibenzo[b,d]azepin-7-yl)malonic acid (preparation given), cyclopropylmethylamine, and 2-(2-pyridon-1-yl)-1,1,3,3-tetramethyluronium tetrafluoroborate (TPTU) were shaken together overnight in DMF to give N-cyclopropylmethyl-2-methyl-N'-(5-methyl-6-oxo-6,7-dihydro-5H-dibenzo[b,d]azepin-7-yl)malonamide. The latter inhibited  $\gamma$ -secretase with IC50 = 0.09  $\mu$ M.

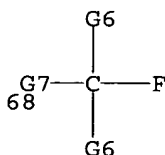
## MSTR 1

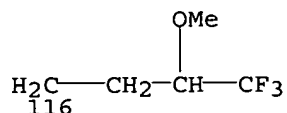
G1—NH—C(O)—G11—C(O)—NH—G2

G1 = 8 / 24 / 38 / 48



G2 = alkyl <containing 1-7 C> /  
 alkynyl <containing 2-7 C> / alkoxy <containing 1-7 C> / 64 /  
 alkylthio <containing 1-7 C> / 66 / 68 / 73 / F / Cl / Br /  
 I / cycloalkyl <containing 3-7 C>  
 (opt. substd. by 1 or more G10) /  
 (Specifically claimed: Pr-n / CH2CH2CHMe2 / 113 / 116)

G3—G4  
64G5—CN  
66G5—C(O)—G9  
73G24—CF2—CF3  
113



G3 = (1-4) CH2

G4 = alkoxy <containing 1-7 C> /  
 alkylthio <containing 1-7 C> / F / Cl / Br / I /  
 cycloalkyl <containing 3-7 C> (opt. substd. by 1 or more G10)  
 / (Specifically claimed: 110 / OMe / SMe)



G5 = (0-4) CH2

G6 = H / F

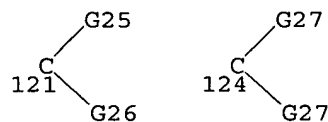
G7 = G5 / alkylene <containing 1 or more C>  
 (opt. substd. by 1 or more G8)

G8 = alkoxy &lt;containing 1-7 C&gt; / F / Cl / Br / I / OH

G9 = alkoxy &lt;containing 1-7 C&gt;

G10 = Ph / F / Cl / Br / I / CF3

G11 = 121 / 124



G12 = H / alkyl <containing 1-7 C> / 79 /  
 cycloalkyl <containing 3-7 C> / 81 /  
 (Specifically claimed: Me / Pr-i)



G13 = cycloalkyl <containing 3-7 C> /  
 (Specifically claimed: cyclopropyl)

G14 = 3 or more H / F / Cl / Br / I

G15 = H / alkyl <containing 1-7 C> /  
 (Specifically claimed: Me)

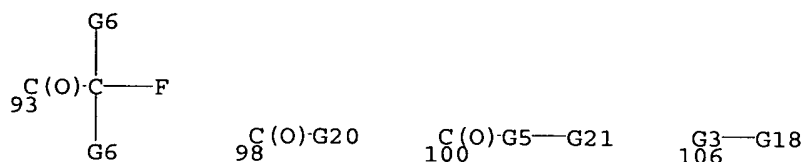
G16 = H / alkyl <containing 1-7 C> /  
 alkynyl <containing 2-7 C> / 89 /  
 cycloalkyl <containing 3-7 C> /  
 Ph (opt. substd. by 1 or more G17) / 91 /  
 (Specifically claimed: Me / Pr-i)



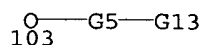
G17 = F / Cl / Br / I

G18 = cycloalkyl <containing 3-7 C> /  
 Ph (opt. substd. by 1 or more G17) /  
 (Specifically claimed: cyclopropyl)

G19 = H / alkyl <containing 1-7 C> / CHO /  
 alkylcarbonyl <containing 1-7 C> / 93 / 98 / 100 /  
 alkylsulfonyl <containing 1-7 C> / SO<sub>2</sub>CF<sub>3</sub> /  
 cycloalkyl <containing 3-7 C> /  
 Ph (opt. substd. by 1 or more G17) / 106 /  
 (Specifically claimed: COMe)



G20 = cycloalkyl <containing 3-7 C> / 103 /  
 , Ph (opt. substd. by 1 or more G22) /  
 (Specifically claimed: cyclopropyl)



G21 = alkoxy <containing 1-7 C> /  
 (Specifically claimed: OMe)  
 G22 = F / Cl / Br / I / alkoxy carbonyl <containing 1-7 C>  
 / (Specifically claimed: CO<sub>2</sub>Me)  
 G23 = H / CF<sub>3</sub>  
 G24 = (1-2) CH<sub>2</sub>  
 G25 = H / alkyl <containing 1-7 C> /  
 alkoxy <containing 1-7 C> / Ph / F / Cl / Br / I /  
 (Specifically claimed: Me / OMe)  
 G26 = H / alkoxy <containing 1-7 C> / Ph / F / Cl / Br /  
 I / (Specifically claimed: OMe)  
 G27 = alkyl <containing 1-7 C> /  
 (Specifically claimed: Me)

Patent location: claim 1

Note: or pharmaceutically acceptable acid addition salts

Stereochemistry: or optically pure enantiomers, racemates or  
 diastereomeric mixtures

L71 ANSWER 24 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 142:261788 MARPAT

TITLE: Preparation of aryl and heteroaryl amino acid  
 derivatives as antagonists of factor IX and/or factor  
 XI

INVENTOR(S): Mjalli, Adnan M. M.; Andrews, Robert C.; Guo,  
 Xiao-Chuan; Christen, Daniel Peter; Gohimmukkula, Devi  
 Reddy; Huang, Guoxiang; Rothlein, Robert; Tyagi,  
 Sameer; Yaramasu, Tripura; Behme, Christopher

PATENT ASSIGNEE(S): Transtech Pharma, Inc., USA

SOURCE: PCT Int. Appl., 313 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 4

PATENT INFORMATION:

PATENT NO.

KIND DATE

APPLICATION NO. DATE

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 WO 2005014533 A2 20050217 WO 2004-US25463 20040806  
 WO 2005014533 A3 20050407

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 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,  
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 SN, TD, TG

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 CA 2531796 AA 20050217 CA 2004-2531796 20040806  
 US 2005049310 A1 20050303 US 2004-913882 20040806  
 US 2005059713 A1 20050317 US 2004-913216 20040806  
 EP 1660439 A2 20060531 EP 2004-780318 20040806

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PRIORITY APPLN. INFO.:

US 2003-493878P 20030808  
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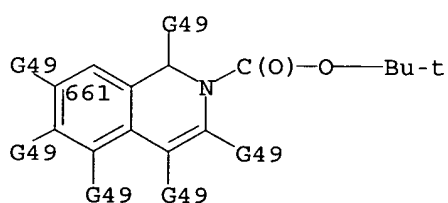
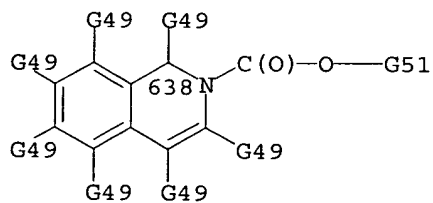
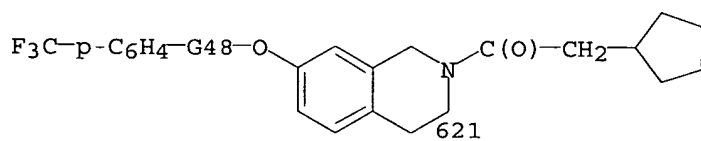
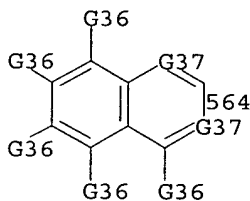
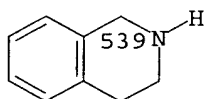
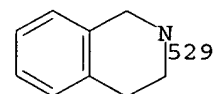
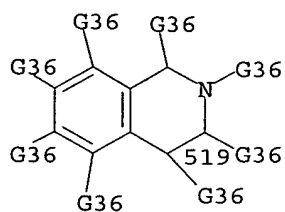
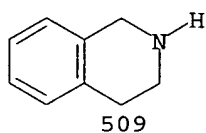
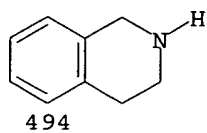
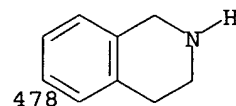
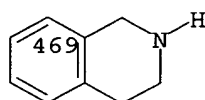
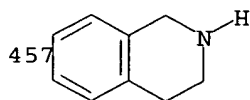
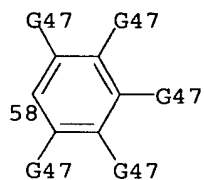
AB The invention relates to aryl and heteroaryl compds. Ar2-K [Ar2 is (un)substituted aryl, heteroaryl, fused cycloalkylaryl, fused cycloalkylheteroaryl, fused heterocyclylaryl or fused heterocyclylheteroaryl; K is a carbamoyl group of defined structure or Ar1-V-CH[(CH2)0-2-G]-X-, where G is H, CO2R1, CH2OR1, COR1, CR1:NOR2, CONR1R2, CONHNH2 or an acid or ester isostere and R1, R2 independently are H, alkyl, alkoxy, aryl, alkylaminoacyl, etc. or may combine to form a ring; V is (CH2)1-2-S-(CH2)0-2, (CH2)1-2-S, S-(CH2)0-2 (or corresponding sulfonyl derivs.), (CH2)1-2-O-(CH2)0-2, (CH2)1-2-NR7-(CH2)0-2, (CH2)1-2-O or a direct bond, where R7 is H, alkyl, aryl, etc. (the CH2 or CH2CH2 groups may be substituted); X is NR8, CONR8, NR8CO, NR8CONR9, O2CNR8, SO2NR8 or NR8SO2NR9, where R8, R9 are independently H, alkyl, aryl, etc.; Ar1 is a group as defined for Ar2] and their pharmaceutical compns. Compds. Ar2-K may be antagonists or partial antagonist of factor IX and/or factor XI and thus may be useful for inhibiting the intrinsic pathway of blood coagulation. Applications include the management, treatment and/or control of diseases caused in part by the intrinsic clotting pathway. Thus, (25)-[5-bromo-2-(4-trifluoromethylbenzyloxy)benzoylamino]-3-(2'-phenoxybiphenyl-4-yl)propionic acid, prepared by amidation and O-benylation reactions, inhibited factor IX or factor XI in the in vitro clotting assay with IC50 < 30 micromolar.

MSTR 1

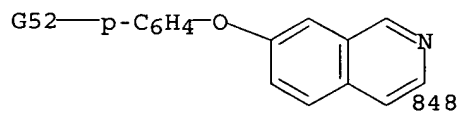
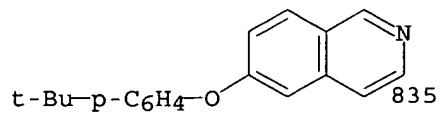
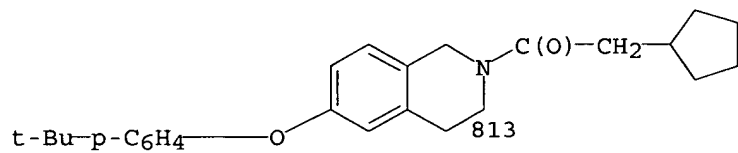
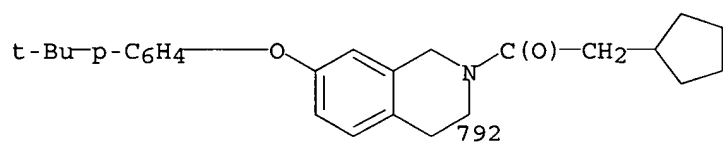
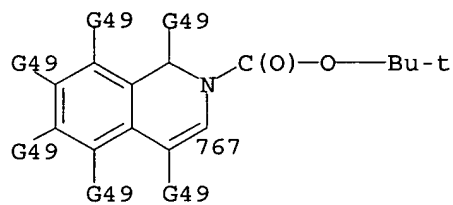
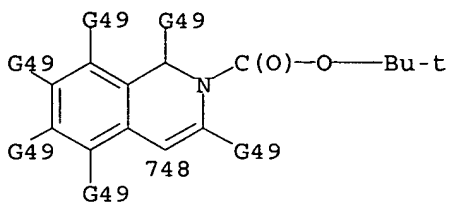
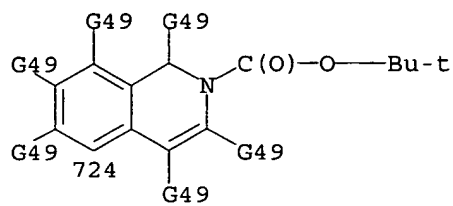
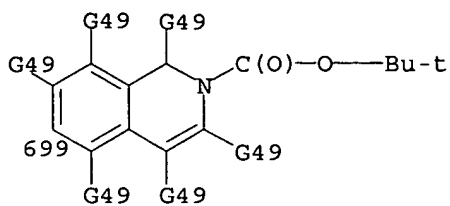
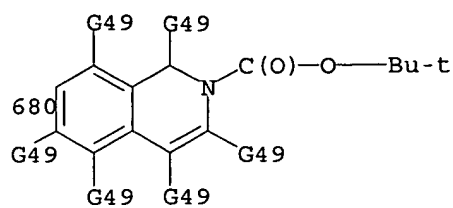
G1—G22  
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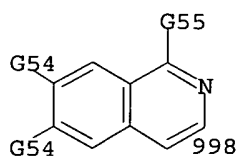
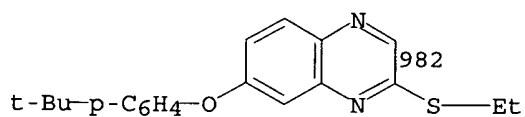
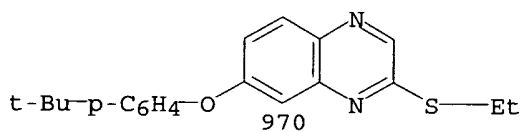
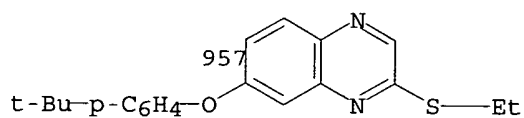
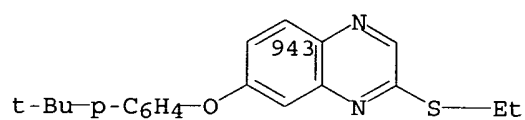
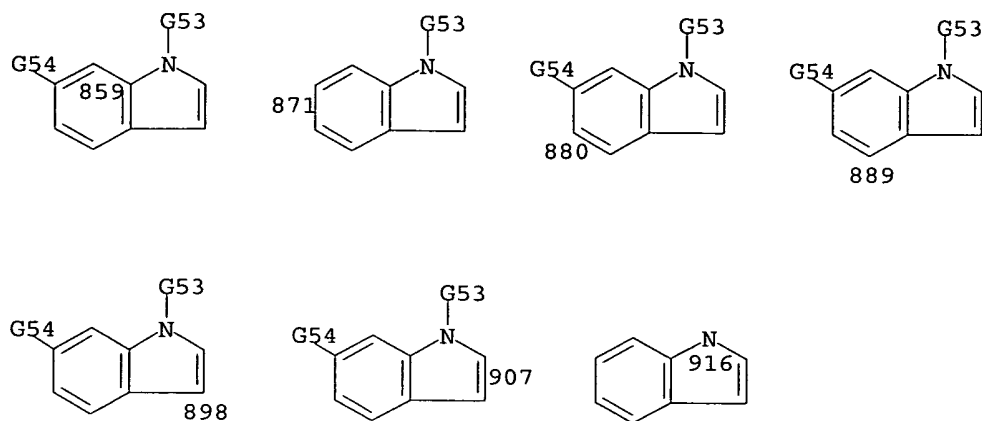
G1 = any ring <containing zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 aromatic, 1 or more double bonds> (opt. substd. by G36) /  
 (Specifically claimed: 58 / naphthyl / pyridyl / 859 / 871 /  
 880 / 889 / 898 / 907 / 916 / isoquinolinyl / pyrimidinyl /  
 quinoxalinyl / quinazolinyl / 469 / 457 / 478 / 494 / 509 /

519 / 529 / 539 / 564 / 621 / 638 / 661 / 680 / 699 / 724 /  
748 / 767 / 792 / 813 / 835 / 848 / 943 / 957 / 970 / 982 /  
998)

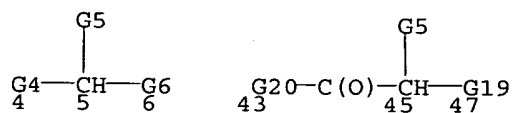






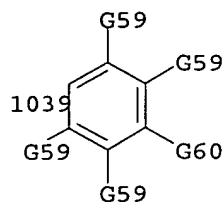


G2 = 4-1 6-3 / 43-1 47-3

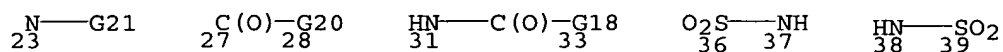


G3 = any ring <containing zero or more N,  
zero or more O, zero or more S (no other heteroatoms),

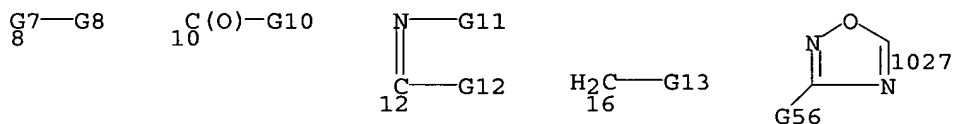
aromatic, 1 or more double bonds> (opt. substd.) /  
(Specifically claimed: 1039 / thienyl)



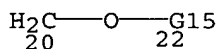
G4 = NH / 23 / 27-1 28-5 / 31-1 33-5 / 36-1 37-5 /  
38-1 39-5 / 40-1 42-5 / 388-1 390-5



G5 = 8 / H / 10 / 12 / R <"acid or ester isostere"> /  
16 / (Specifically claimed: 1027)

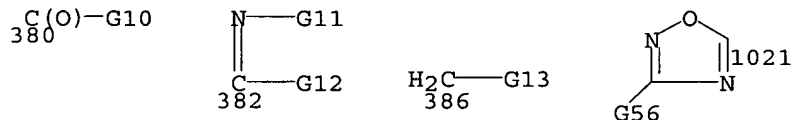


G6 = R <"linking group"> / bond /  
(Specifically claimed: G15 / 20-5 22-3 )

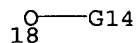


G7 = (1-2) CH2 (opt. substd.)

G8 = H / 380 / 382 / R <"acid or ester isostere"> / 386 /  
(Specifically claimed: 1021)



G10 = H / R / OH / 18 / **NHNH2** / NH2



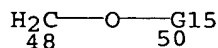
G11 = OH (opt. substd.)

G12 = H / R

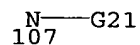
G13 = OH (opt. substd.)

G14 = R / (Specifically claimed: alkyl / aryl / Me)

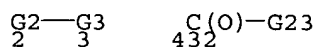
G15 = (1-2) CH<sub>2</sub>  
 G18 = O / NH  
 G19 = R <"linking group"> / **bond** /  
 (Specifically claimed: G15 / 48-45 50-3 )



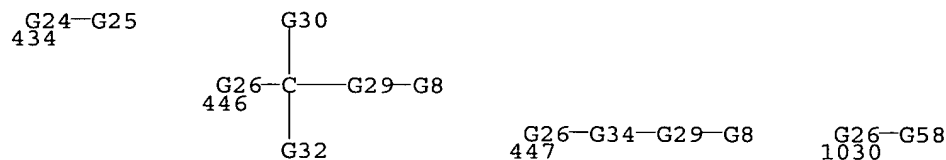
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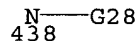
G21 = R / (Specifically claimed: alkyl (opt. substd. by G57) / aryl (opt. substd. by G46))  
 G22 = 432 / 2



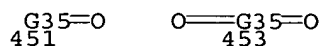
G23 = 434 / 446 / 447 / (Specifically claimed: 1030)



G24 = heterocycle <containing 1 N, attached through 1 N, 1 C>  
 G25 = CO<sub>2</sub>H / R <"acid or ester isostere"> /  
 alkyl (substd. by CO<sub>2</sub>H) / alkyl (substd. by alkoxycarbonyl)  
 G26 = NH / 438



G28 = alkyl / alkyl (substd. by aryl) /  
 alkyl (substd. by cycloalkyl)  
 G29 = (0-2) CH<sub>2</sub>  
 G30 = H / alkyl (opt. substd. by G31) / alkoxy  
 G31 = cycloalkyl / heterocycle  
 G32 = H / alkyl (opt. substd. by G33)  
 G33 = OH / dialkylamino / acylamino  
 G34 = any ring <containing 4-12 atoms, 0-2 heteroatoms,  
 0-2 N, 0-2 O, 0-1 S (no other heteroatoms),  
 attached through 1 C, non-aromatic, saturated> / 451 / 453 /  
 any ring <containing 5 or more atoms, 1 or more double bonds>  
 / (Specifically claimed: phenylene)



G35 = any ring <containing 4-12 atoms, 0-2 heteroatoms,  
0-2 N, 0-2 O, 0-1 S (no other heteroatoms),  
attached through 1 C, non-aromatic, saturated>  
G36 = H / R / (Specifically claimed: F / Cl / Br / I /  
CN / NO2 / perfluoroalkyl / alkyl (opt. substd. by G39) /  
aryl (opt. substd. by G38) / 575 / 577 / 580 / 583 / CH3 /  
OH / NH2 / 585 / NHCHO)

$\overset{\text{G41-G42}}{\underset{575}{\text{C}}} - \overset{\text{C(O)-G41-G42}}{\underset{577}{\text{C}}} \quad \text{HN} - \overset{\text{C(O)-G42}}{\underset{580}{\text{C}}} \quad \text{H}_2\text{C} - \overset{\text{G44}}{\underset{583}{\text{C}}} \quad \overset{\text{C(O)-G45}}{\underset{585}{\text{C}}}$

G37 = N / 567

$\overset{\text{C}}{\underset{567}{\text{C}}} - \text{G36}$

G38 = alkyl / OH / NH2 / 587 / NHCHO / 589 / 591 / 594

$\overset{\text{C(O)-G45}}{\underset{587}{\text{C}}} \quad \overset{\text{G41-G46}}{\underset{589}{\text{C}}} \quad \overset{\text{C(O)-G41-G46}}{\underset{591}{\text{C}}} \quad \text{HN} - \overset{\text{C(O)-G46}}{\underset{594}{\text{C}}}$

G39 = cycloalkyl / aryl (opt. substd. by G40)  
G40 = alkyl / aryl  
G41 = O / NH  
G42 = alkyl (opt. substd. by G43) /  
aryl (opt. substd. by alkyl)  
G43 = aryl (opt. substd. by G40)  
G44 = aryl (opt. substd. by alkyl)  
G45 = OH / NH2  
G46 = alkyl  
G47 = 597 / 600 / 603 / 606 / NEt2 / 610 / 825 / OMe / H /  
R / F / Cl / Br / I / CN / NO2 / perfluoroalkyl /  
alkyl (opt. substd. by G39) / aryl (opt. substd. by G38) /  
1108 / 1110 / 1113 / 1116 / CH3 / OH / NH2 / 1118 / NHCHO

$\overset{\text{O}}{\underset{597}{\text{O}}} - \left[ \text{CH}_2 \right]_6 - \text{CH}_3 \quad \overset{\text{O}}{\underset{600}{\text{O}}} - \text{m} - \text{C}_6\text{H}_4 - \text{CF}_3 \quad \text{p} - \overset{\text{C}_6\text{H}_4}{\underset{603}{\text{C}_6\text{H}_4}} - \text{O} - \text{CF}_3$


$\text{HN} - \overset{\text{SO}_2}{\underset{606}{\text{SO}_2}} - \text{p} - \text{C}_6\text{H}_4 - \text{Bu-t} \quad \text{HN} - \overset{\text{p}}{\underset{610}{\text{p}}} - \text{C}_6\text{H}_4 - \text{CF}_3 \quad \text{p} - \overset{\text{C}_6\text{H}_4}{\underset{825}{\text{C}_6\text{H}_4}} - \text{CF}_3 \quad \overset{\text{G41-G42}}{\underset{1108}{\text{G41-G42}}}$

$\overset{\text{C(O)-G41-G42}}{\underset{1110}{\text{C}}} \quad \text{HN} - \overset{\text{C(O)-G42}}{\underset{1113}{\text{C}}} \quad \text{H}_2\text{C} - \overset{\text{G44}}{\underset{1116}{\text{C}}} \quad \overset{\text{C(O)-G45}}{\underset{1118}{\text{C}}}$

G48 = bond / CH2  
G49 = H / 647





$\text{G50} - \text{p} - \text{C}_6\text{H}_4 - \text{G48} - \overset{\text{O}}{\underset{647}{\text{O}}}$

$$\text{O}-\text{p}-\text{C}_6\text{H}_4-\text{Bu}-\text{t}$$

$\text{H}_2\text{C}$  — 

1006

OCC1CCCC1
$$\begin{array}{ccc} \text{o-C}_6\text{H}_4\text{-O-p-C}_6\text{H}_4\text{-G61} & \text{p-C}_6\text{H}_4\text{-O-p-C}_6\text{H}_4\text{-G61} & \text{m-C}_6\text{H}_4\text{-O-p-C}_6\text{H}_4\text{-CF}_3 \\ 1045 & 1049 & 1052 \end{array}$$
$$\begin{array}{cccc} \text{O}-\text{C}_6\text{H}_4-\text{CF}_3 & \text{O}-\text{P}-\text{C}_6\text{H}_4-\text{CF}_3 & \text{P}-\text{C}_6\text{H}_4-\text{F} & \text{O}-\text{m}-\text{C}_6\text{H}_4-\text{CF}_3 \\ 1057 & 1059 & 1062 & 1064 \end{array}$$

$\text{O}-\text{CH}_2-\text{CH}_2-\text{C}_5\text{H}_9$  (1088)       $\text{O}-\text{P}-\text{C}_6\text{H}_4-\text{O}-\text{CF}_3$  (1104)

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L71 ANSWER 25 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 142:261555 MARPAT  
 TITLE: Preparation of pyrazine derivatives as modulators of cannabinoid receptors  
 INVENTOR(S): Ellsworth, Bruce A.; Sun, Chongqing; Pendri, Annapurna  
 PATENT ASSIGNEE(S): Bristol-Myers Squibb Company, USA  
 SOURCE: PCT Int. Appl., 74 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005016286	A2	20050224	WO 2004-US26599	20040816
WO 2005016286	C1	20050414		
WO 2005016286	A3	20050609		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 2005054659	A1	20050310	US 2004-917199	20040812
EP 1653962	A2	20060510	EP 2004-781313	20040816

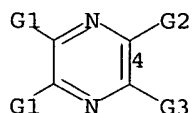
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR

PRIORITY APPLN. INFO.:  
 US 2003-495807P 20030815  
 US 2004-917199 20040812  
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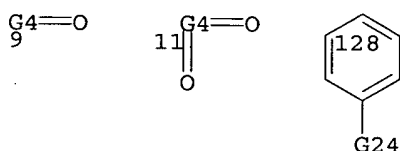
AB The present application describes compds. I [A = CR4R5R6, NR2R3, SR7, S(:O)R8, OR9, (un)substituted heteroaryl; G1, G2 = (un)substituted aryl, (un)substituted heteroaryl; R1 = H, halogen, OH, CN, alkyl, aryl, heteroaryl; R2, R3 = H, alkyl, cycloalkyl, aryl, heterocyclyl, alkoxy, heteroaryl, C(:O)R10, aminoalkyl, iminoalkyl, S(:O)R8, SO2R8; R2R3 = heterocyclyl; R4, R5, R6 = H, alkyl, OH, NR2R3, C(:O)NR2R3, C(:NR2)NR2R3, aryl, heteroaryl; R4R5 = cycloalkyl, heterocyclyl; NR4R5 = imine; R7 = alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl; R8 = alkyl, cycloalkyl, aminoalkyl, aminocycloalkyl, aminoheterocyclyl, aminoaryl, aminoheteroaryl, aryl, heterocyclyl; R9 = aryl, heteroaryl, alkyl, cycloalkyl, heterocyclyl, C(:O)NR2R3; R10 = alkyl, aryl, heteroaryl, alkoxy], and their stereoisomers and pharmaceutically acceptable salts, useful as modulators of cannabinoid receptors ( $K_i = 0.01 \text{ nM} - 13,000 \text{ nM}$ ). Thus, ditolylpyrazine II was prepared from  $\text{H}_2\text{NCH}_2\text{CH}(\text{NH}_2)\text{CO}_2\text{H}$ , via esterification with MeOH containing HCl gas, cyclocondensation with 4,4'-dimethylbenzil in MeOH containing KOH, saponification with LiOH in aqueous DMF, chlorination with  $(\text{COCl})_2$  in  $\text{CH}_2\text{Cl}_2$  containing catalytic DMF and amidation with (S)-(+)-leucinol. Addnl., the present application describes pharmaceutical compns. comprising at least one compound I and optionally one or more addnl. therapeutic agents. Finally, the present application describes methods of treatment using the compds. I both alone and in

combination with one or more addnl. therapeutic agents.

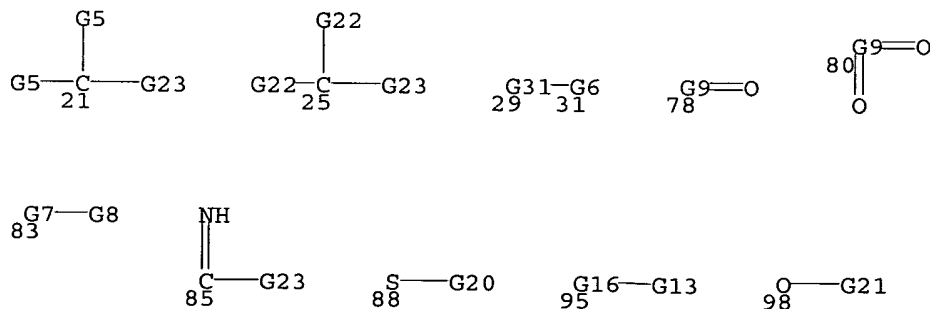
## MSTR 1



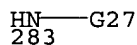
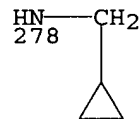
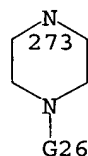
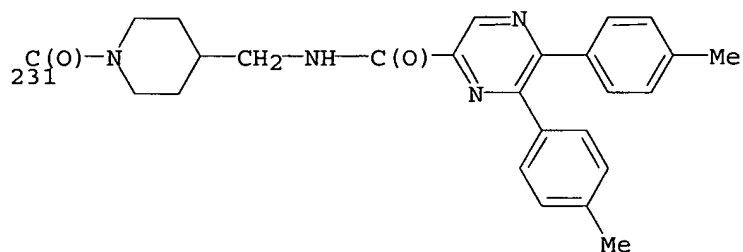
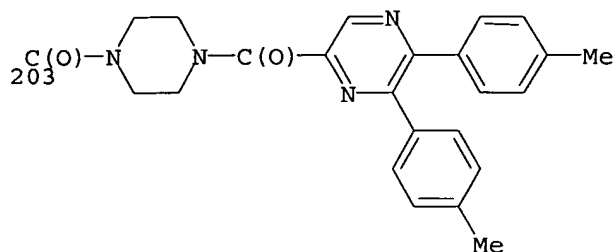
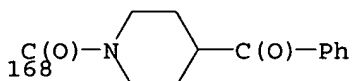
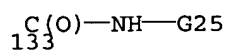
G1 = aryl <containing 6 or more C> (opt. substd.) /  
heteroaryl <containing 1 or more heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.) / 9 /  
11 / (Specifically claimed: 128)



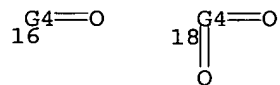
G2 = 21 / 25 / 29 / carbocycle <containing 3-20 C,  
attached through 1 or more C, non-aromatic,  
0-2 double bonds, 1-3 rings> (opt. substd.) /  
heterocycle <containing 4-7 atoms, 1-4 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), 1 or more C,  
attached through 1 or more C, 0 or more double bonds,  
0 or more triple bonds, 4- to 7-membered monocyclic ring>  
(opt. substd.) / 78 / 80 / 85 / NH2 / 83 /  
heterocycle <containing 4-7 atoms, 1-4 heteroatoms,  
1 or more N, zero or more O, zero or more S (no other  
heteroatoms), zero or more C, attached through 1 or more N,  
0 or more double bonds, 0 or more triple bonds,  
4- to 7-membered monocyclic ring> (opt. substd.) / 88 / 95 /  
98 / heteroaryl <containing 1 or more heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.) /  
(Specifically claimed: 133 / 168 / 203 / 231 / piperidino /  
273 / 278 / 283)







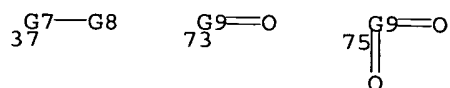
G3 = H / F / Cl / Br / I / OH / CN /  
alkyl <containing 1-40 C> (opt. substd.) /  
aryl <containing 6 or more C> (opt. substd.) /  
heteroaryl <containing 1 or more heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.) / 16 /  
18 / (Specifically claimed: Me)



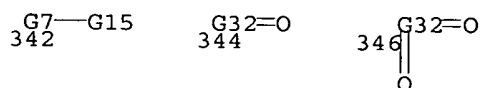
G4 = heterocycle <containing 5 or more atoms,  
1 or more heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms), aromatic,  
2 or more double bonds> (opt. substd.)

G5 = H / OH / NH<sub>2</sub> / 37 / heterocycle <containing 4-7  
atoms, 1-4 heteroatoms, 1 or more N, zero or more O,  
zero or more S (no other heteroatoms), zero or more C,  
attached through 1 or more N, 0 or more double bonds,  
0 or more triple bonds, 4- to 7-membered monocyclic ring>  
(opt. substd.) / aryl <containing 6 or more C>  
(opt. substd.) / heteroaryl <containing 1 or more

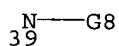
heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms) > (opt. substd.) / 73 /  
75



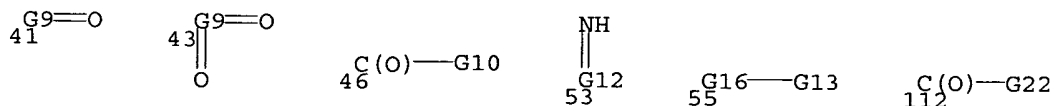
G6 = NH2 / 342 / heterocycle <containing 4-7 atoms,  
1-4 heteroatoms, 1 or more N, zero or more O,  
zero or more S (no other heteroatoms), zero or more C,  
attached through 1 or more N, 0 or more double bonds,  
0 or more triple bonds, 4- to 7-membered monocyclic ring>  
(opt. substd. by 1 or more G36) / 344 / 346



G7 = NH / 39

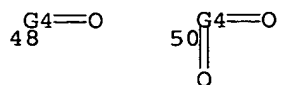


G8 = alkyl <containing 1-40 C>  
(opt. substd. by 1 or more G11) /  
carbocycle <containing 3-20 C, non-aromatic,  
0-2 double bonds, 1-3 rings> (opt. substd.) /  
aryl <containing 6 or more C> (opt. substd.) /  
heterocycle <containing 4-7 atoms, 1-4 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), zero or more C,  
0 or more double bonds, 0 or more triple bonds,  
4- to 7-membered monocyclic ring> (opt. substd.) / 41 / 43 /  
alkoxy <containing 1-40 C> (opt. substd.) /  
heteroaryl <containing 1 or more heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.) / 46 /  
112 / 53 / 55

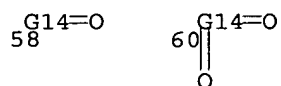


G9 = heterocycle <containing 4 or more atoms,  
1 or more heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms), zero or more C,  
0 or more double bonds, 0 or more triple bonds>  
(opt. substd.)

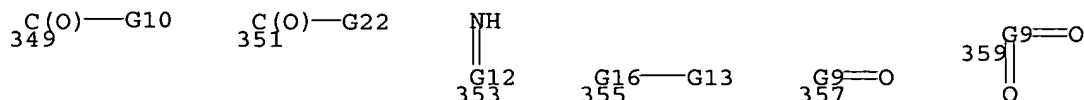
G10 = aryl <containing 6 or more C> (opt. substd.) /  
heteroaryl <containing 1 or more heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.) / 48 /  
50 / alkoxy <containing 1-40 C> (opt. substd.)



- G11 = R / NH2  
 G12 = carbon chain <containing 1-40 C, saturated>  
 (opt. substd.)  
 G13 = alkyl <containing 1-40 C>  
 (opt. substd. by 1 or more G11) /  
 carbocycle <containing 3-20 C, non-aromatic,  
 0-2 double bonds, 1-3 rings> (opt. substd. by 1 or more G11)  
 / heterocycle <containing 4-7 atoms, 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), zero or more C,  
 0 or more double bonds, 0 or more triple bonds,  
 4- to 7-membered monocyclic ring>  
 (opt. substd. by 1 or more G11) /  
 aryl <containing 6 or more C> (opt. substd. by 1 or more G11)  
 / heteroaryl <containing 1 or more heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)>  
 (substd. by 1 or more G11) / 58 / 60

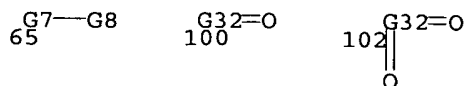


- G14 = heterocycle <containing 4 or more atoms,  
 1 or more heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), zero or more C,  
 0 or more double bonds, 0 or more triple bonds>  
 (opt. substd. by 1 or more G11)  
 G15 = alkyl <containing 1-40 C>  
 (opt. substd. by 1 or more G18) /  
 carbocycle <containing 3-20 C, non-aromatic,  
 0-2 double bonds, 1-3 rings> (opt. substd.) /  
 aryl <containing 6 or more C> (opt. substd.) /  
 heterocycle <containing 4-7 atoms, 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), zero or more C,  
 0 or more double bonds, 0 or more triple bonds,  
 4- to 7-membered monocyclic ring> (opt. substd.) / 357 /  
 359 / alkoxy <containing 1-40 C> (opt. substd.) /  
 heteroaryl <containing 1 or more heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.) / 349 /  
 351 / 353 / 355

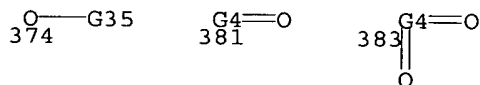


- G16 = S(O) / SO2  
 G17 = NH2 / 65 / heterocycle <containing 4-7 atoms,  
 1-4 heteroatoms, 1 or more N, zero or more O,  
 zero or more S (no other heteroatoms), zero or more C,

attached through 1 or more N, 0 or more double bonds,  
0 or more triple bonds, 4- to 7-membered monocyclic ring>  
(opt. substd.) / 100 / 102



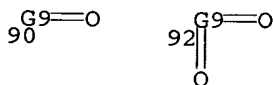
G18 = R / NH<sub>2</sub> / (Specifically claimed: alkenyl  
<containing 2-40 C> (opt. substd.) /  
alkynyl <containing 2-20 C> (opt. substd.) / OH /  
alkoxy <containing 1-40 C> (opt. substd. by 1 or more G33) /  
374 / CHO / alkylcarbonyl <containing 1-40 C>  
(opt. substd.) / F / Cl / Br / I /  
alkyl <containing 1-40 C> (substd. by 1 or more G34) / SH /  
alkylthio <containing 1-40 C> (opt. substd.) / NO<sub>2</sub> / CN /  
CO<sub>2</sub>H / aryl <containing 6 or more C>  
(substd. by 1 or more G11) / CONH<sub>2</sub> / N<sub>3</sub> / NHC(NH)NH<sub>2</sub> /  
C(NH)NH<sub>2</sub> / SO<sub>2</sub>NH<sub>2</sub> / CF<sub>3</sub> / OCF<sub>3</sub> /  
heteroaryl <containing 1 or more heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.) / 381 /  
383)



G19 = NH / 71 / O

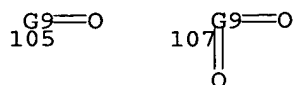


G20 = alkyl <containing 1-40 C> (opt. substd.) /  
carbocycle <containing 3-20 C, non-aromatic,  
0-2 double bonds, 1-3 rings> (opt. substd.) /  
heterocycle <containing 4-7 atoms, 1-4 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), zero or more C,  
0 or more double bonds, 0 or more triple bonds,  
4- to 7-membered monocyclic ring> (opt. substd.) / 90 / 92 /  
aryl <containing 6 or more C> (opt. substd.) /  
heteroaryl <containing 1 or more heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.)

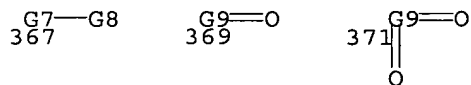


G21 = aryl <containing 6 or more C> (opt. substd.) /  
heteroaryl <containing 1 or more heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.) /  
alkyl <containing 1-40 C> (opt. substd.) /  
carbocycle <containing 3-20 C, non-aromatic,

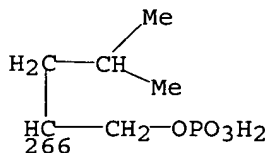
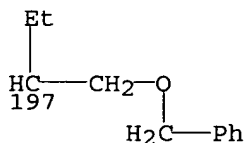
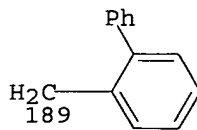
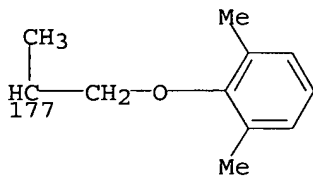
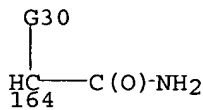
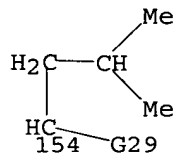
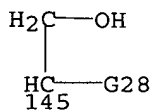
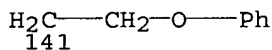
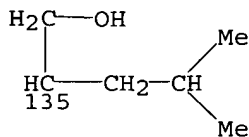
0-2 double bonds, 1-3 rings> (opt. substd.) /  
 heterocycle <containing 4-7 atoms, 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), zero or more C,  
 0 or more double bonds, 0 or more triple bonds,  
 4- to 7-membered monocyclic ring> (opt. substd.) / 105 / 107



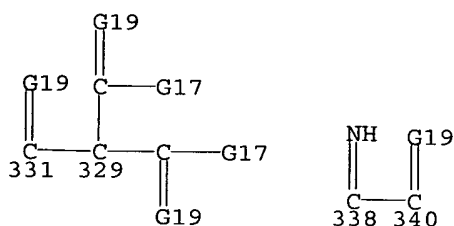
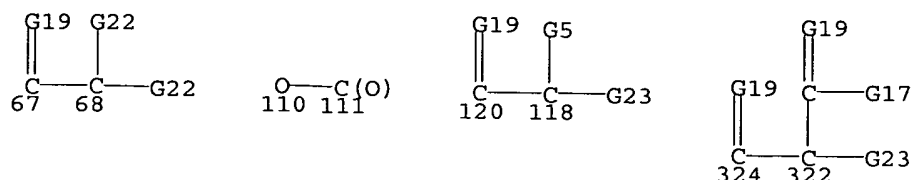
G22 = alkyl <containing 1-40 C> (opt. substd.)  
 G23 = alkyl <containing 1-40 C> (opt. substd.) / H / OH /  
 NH2 / 367 / heterocycle <containing 4-7 atoms,  
 1-4 heteroatoms, 1 or more N, zero or more O,  
 zero or more S (no other heteroatoms), zero or more C,  
 attached through 1 or more N, 0 or more double bonds,  
 0 or more triple bonds, 4- to 7-membered monocyclic ring>  
 (opt. substd.) / aryl <containing 6 or more C>  
 (opt. substd.) / heteroaryl <containing 1 or more  
 heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.) / 369 /  
 371



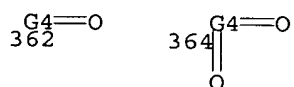
G24 = Me / Cl  
 G25 = 135 / 141 / 145 / CH<sub>2</sub>CH<sub>2</sub>OH / 154 / 164 / 177 / 189 /  
 197 / 266



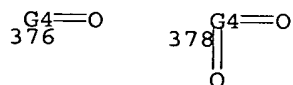
G26 = Pr-i / CH<sub>2</sub>Ph  
 G27 = cyclohexyl / Bu-n  
 G28 = Pr-i / Pr-n  
 G29 = CONH<sub>2</sub> / CH<sub>2</sub>OH  
 G30 = CH<sub>2</sub>Ph / Ph  
 G31 = 118-4 120-31 / 68-4 67-31 / 322-4 324-31 /  
 329-4 331-31 / 338-4 340-31 / 110-4 111-31 / C(O) / SO<sub>2</sub>



G32 = heterocycle <containing 4-7 atoms, 1-4 heteroatoms, 1 or more N, zero or more O, zero or more S (no other heteroatoms), zero or more C, attached through 1 or more N, 0 or more double bonds, 0 or more triple bonds, 4- to 7-membered monocyclic ring> (opt. substd.)  
 G33 = R / aryl <containing 6 or more C> (opt. substd.) / heteroaryl <containing 1 or more heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms)> (opt. substd.) / 362 / 364

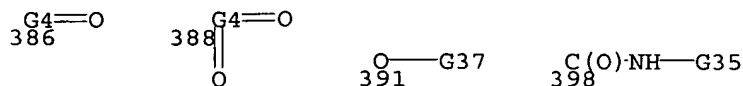


G34 = R / F / Cl / Br / I  
 G35 = aryl <containing 6 or more C> (opt. substd.) / heteroaryl <containing 1 or more heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms)> (opt. substd.) / 376 / 378

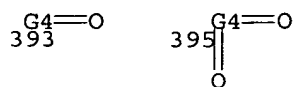


G36 = R / (Specifically claimed: aryl <containing 6 or more C> (opt. substd.) / heteroaryl <containing 1 or more heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms)> (opt. substd.) / 386 / 388 / alkenyl <containing 2-40 C> (opt. substd.) /

alkynyl <containing 2-20 C> (opt. substd.) / OH /  
 alkoxy <containing 1-40 C> (opt. substd. by 1 or more G33) /  
 391 / CHO / alkylcarbonyl <containing 1-40 C>  
 (opt. substd.) / alkyl <containing 1-40 C>  
 (substd. by 1 or more G34) / SH /  
 alkylthio <containing 1-40 C> (opt. substd.) / NO<sub>2</sub> / CN /  
 CO<sub>2</sub>H / CONH<sub>2</sub> / NH<sub>2</sub> / alkylamino <containing 1-40 C>  
 (opt. substd.) / 398 / N<sub>3</sub> / NHC(NH)NH<sub>2</sub> / C(NH)NH<sub>2</sub> / SO<sub>2</sub>NH<sub>2</sub>)



G37 = heteroaryl <containing 1 or more heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.) / 393 /  
 395



Patent location: claim 1  
 Note: and pharmaceutically acceptable salts  
 Note: also incorporates claims 2 and 4  
 Note: additional substitution and ring formation also  
 claimed  
 Note: substitution is restricted  
 Stereochemistry: and stereoisomers

L71 ANSWER 26 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 142:240199 MARPAT  
 TITLE: Preparation of substituted quinone diamines that  
 modulate levels of gene expression in cellular systems  
 INVENTOR(S): Padia, Janak K.; O'Brien, Sean; Lu, Jiemin; Pikul,  
 Stanislaw  
 PATENT ASSIGNEE(S): Avalon Pharmaceuticals, USA  
 SOURCE: PCT Int. Appl., 77 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005013903	A2	20050217	WO 2004-US25343	20040805
WO 2005013903	A3	20050609		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,  
 CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,  
 GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
 LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,  
 NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,  
 TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,  
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,  
 EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,

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SN, TD, TG

PRIORITY APPLN. INFO.:

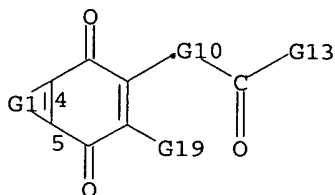
US 2003-492652P 20030805

OTHER SOURCE(S):

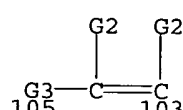
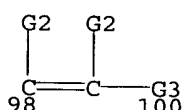
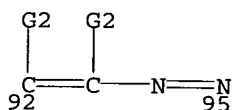
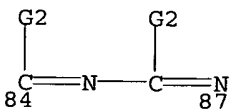
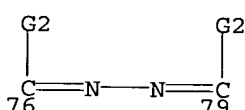
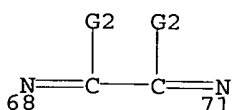
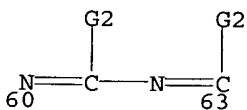
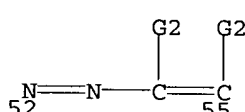
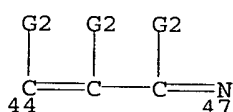
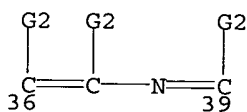
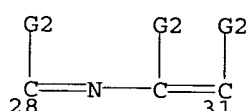
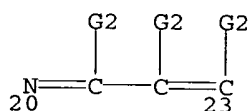
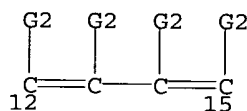
CASREACT 142:240199

AB Title compds. I [W, X, Y, Z = bond, CR5, O, N, etc.; R1 = H, alkyl, (un)substituted Ph, etc.; R2 = alk(en/yn)yl, heteroalkyl, etc.; R3-4 = alkyl, (un)substituted Ph, etc.; R5 = H, OH, SH, alkoxy, etc.] are prepared For instance, N-(3-(dimethylamino)-1,4-dioxo-1,4-dihydronaphthalen-2-yl)-2-methoxy-N-methylacetamide is prepared from 2,3-dichloro[1,4]naphthoquinone in 4 steps. I modulate levels of gene expression in cellular systems, including cancer cells.

# MSTR 1



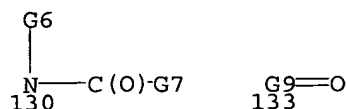
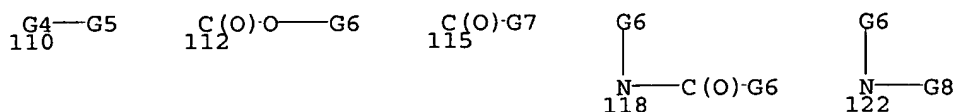
G1 = 12-4 15-5 / 20-4 23-5 / 28-4 31-5 / 36-4 39-5 /  
44-4 47-5 / 52-4 55-5 / 60-4 63-5 / 68-4 71-5 /  
76-4 79-5 / 84-4 87-5 / 92-4 95-5 / 98-4 100-5 /  
105-4 103-5



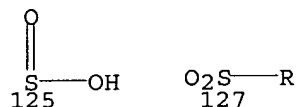
G2 = H / OH / SH / 110 / alkyl <containing 1-15 C>  
(opt. substd.) / F / Cl / Br / I / CN / CF3 / NO2 / 112 /  
115 / NH2 (opt. substd.) / heterocycle <containing 1-4  
heteroatoms, 1 or more N, zero or more O,



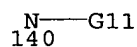
zero or more S (no other heteroatoms), attached through 1 N,  
mono- or bicyclic> (opt. substd.) / 118 / 122 / 130 / 133 /  
(Specifically claimed: Me)



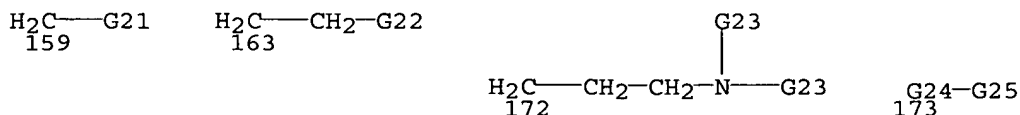
- G3 = O / S  
 G4 = O / S  
 G5 = alkyl <containing 1-15 C> (opt. substd.) /  
       alkenyl <containing up to 15 C> (opt. substd.)  
 G6 = H / R  
 G7 = NH2 (opt. substd.) / heterocycle <containing 1-4  
       heteroatoms, 1 or more N, zero or more O,  
       zero or more S (no other heteroatoms), attached through 1 N,  
       mono- or bicyclic> (opt. substd.)  
 G8 = 125 / 127



- G9 = heterocycle <containing 4-7 atoms, 2 or more N,  
       1 or more C, attached through 1 or more N, 1 or more C>  
       (opt. substd.)  
 G10 = **NH** / 140



- G11 = alkyl <containing 1-15 C> (opt. substd. by G12) /  
       Ph (opt. substd. by G2) / aryl <polycyclic>  
       (opt. substd. by G2) / heteroaryl <containing zero or more  
       N, zero or more O, zero or more S> (opt. substd. by G2) /  
       heterocycle <containing 3-8 atoms, 1-4 heteroatoms,  
       zero or more N, zero or more O,  
       zero or more S (no other heteroatoms)> (opt. substd. by G2) /  
       (Specifically claimed: Me / 159 / 163 / 172 / 173)

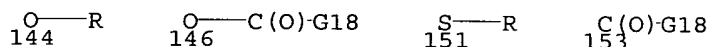


- G12 = R / aryl <containing 6-16 C, mono- or bicyclic>  
       (opt. substd. by G2)

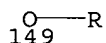
G13 = alkyl <containing 2 or more C> (opt. substd.) /  
 alkenyl <containing 2-15 C> (opt. substd.) /  
 alkynyl <containing 2-15 C> (opt. substd.) /  
 R <"heteroalkyl"> / alkyl <containing 1-15 C>  
 (substd. by G14) / heteroaryl <containing up to 17 atoms,  
 mono- or bicyclic> (opt. substd.) /  
 carbocycle <containing up to 17 C, non-aromatic,  
 mono- or bicyclic> (opt. substd.) /  
 heterocycle <containing up to 17 atoms, non-aromatic,  
 mono- or bicyclic> (opt. substd.) / 142

G15-G17  
 142

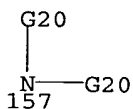
G14 = R / F / Cl / Br / I / aryl <containing 6-16 C,  
 mono- or bicyclic> (opt. substd.) /  
 heteroaryl <containing up to 17 atoms, mono- or bicyclic>  
 (opt. substd.)  
 G15 = G16 / alkylene <containing 1 or more C>  
 (opt. substd.)  
 G16 = (1-4) CH<sub>2</sub> (opt. substd.)  
 G17 = OH / 144 / 146 / SH / 151 / 153



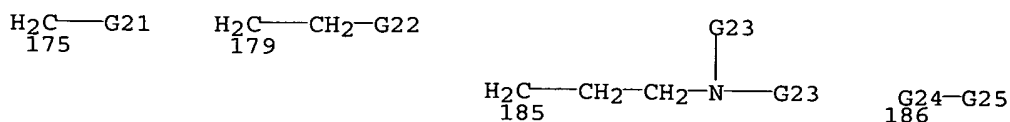
G18 = NH<sub>2</sub> (opt. substd.) / OH / 149



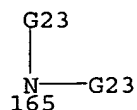
G19 = 157 / heterocycle <containing 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms),  
 attached through 1 or more N, mono- or bicyclic>  
 (opt. substd.)



G20 = alkyl <containing 1-15 C> (opt. substd. by G12) /  
 Ph (opt. substd. by G2) / aryl <polycyclic>  
 (opt. substd. by G2) / heteroaryl <containing zero or more  
 N, zero or more O, zero or more S> (opt. substd. by G2) /  
 heterocycle <containing 3-8 atoms, 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd. by G2) /  
 (Specifically claimed: 175 / 179 / 185 / 186)



G21 = Ph (opt. substd.) / pyridyl / indolyl / pyrrolyl / furyl  
 G22 = pyridyl / indolyl / alkoxy <containing 1-15 C> (opt. substd.) / alkenyloxy <containing up to 15 C> (opt. substd.) / OH / 165 / pyrrolyl / furyl



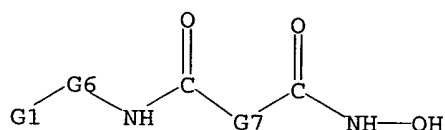
G23 = alkyl <containing 1-15 C> (opt. substd.)  
 G24 = alkylene <containing 1-15 C> (opt. substd.)  
 G25 = morpholino / piperazino / piperidino / pyrrolidino  
 Patent location: claim 1  
 Note: additional ring oxo formation also disclosed

L71 ANSWER 27 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 142:150831 MARPAT  
 TITLE: Histone deacetylase inhibitors for treatment of neurological diseases and cancer  
 INVENTOR(S): Kozikowski, Alan P.; Dritschilo, Anatoly; Jung, Mira; Petukhov, Pavel; Chen, Bin  
 PATENT ASSIGNEE(S): Georgetown University, USA  
 SOURCE: PCT Int. Appl., 130 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 3  
 PATENT INFORMATION:

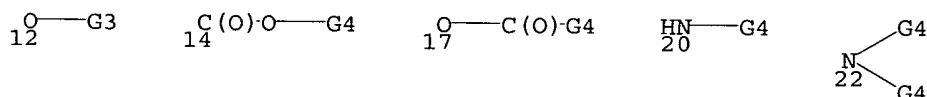
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005007091	A2	20050127	WO 2004-US21663	20040707
WO 2005007091	A3	20050428		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2005014839	A1	20050120	US 2003-614498	20030707
US 2005032831	A1	20050210	US 2004-843229	20040511
CA 2531661	AA	20050127	CA 2004-2531661	20040707
EP 1644323	A2	20060412	EP 2004-777648	20040707
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
PRIORITY APPLN. INFO.:			US 2003-614498	20030707
			US 2004-843229	20040511
			WO 2004-US21663	20040707
AB One aspect of the invention relates to HDAC inhibitors. Methods of sensitizing a cancer cell to the cytotoxic effects of radiotherapy are				

also provided. The invention also provides methods for treating cancer and methods for treating neurol. diseases. Thus, numerous HDAC inhibitors were synthesized and tested in vitro for inhibition of HDAC and for sensitizing radiation resistant squamous carcinoma cell line SQ-20B to gamma radiation. One of the more effective inhibitors was 7-[3-(4-dimethylaminobenzyl)ureido]heptanoic acid hydroxyamide.

## MSTR 4



- G1 = carbon chain <containing 1-6 C> (opt. substd. by 1 or more G2) / Ph (opt. substd. by 1 or more G2) / naphthyl (opt. substd.) / carbocycle <containing 3-7 C, non-aromatic, 0 or more double bonds> (opt. substd. by 1 or more G2) / heterocycle <containing 3-10 atoms, 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), 0 or more double bonds, mono- or bicyclic> (opt. substd. by 1 or more G2)
- G2 = F / Cl / Br / I / carbon chain <containing 1-6 C> (opt. substd.) / 12 / OH / CN / CO<sub>2</sub>H / OCHO / 14 / 17 / NH<sub>2</sub> / 20 / 22 / NHCHO / CONH<sub>2</sub> / 25 / 28



- G3 = carbon chain <containing 1-6 C> (opt. substd.)
- G4 = carbon chain <containing 1-6 C>

G6 = (0-10) CH<sub>2</sub>

G7 = (1-10) CH<sub>2</sub>

Patent location:

claim 18

Note:

or pharmaceutically acceptable salts

Note:

also incorporates claim 44

L71 ANSWER 28 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 142:134581 MARPAT

TITLE: Preparation of malonamide derivatives useful as raf-kinase inhibitors

INVENTOR(S): Bruge, David; Buchstaller, Hans-Peter; Wiesner, Matthias; Finsinger, Dirk; Baumgarth, Manfred; Sirrenberg, Christian; Zenke, Frank; Amendt, Christiane; Grell, Matthias

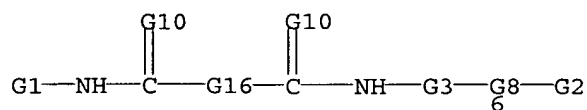
PATENT ASSIGNEE(S): Merck Patent GmbH, Germany

SOURCE: PCT Int. Appl., 202 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

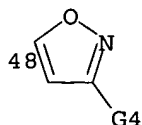
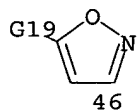
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005005389	A2	20050120	WO 2004-EP6573	20040618
WO 2005005389	A3	20050324		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2004255566	A1	20050120	AU 2004-255566	20040618
CA 2531485	AA	20050120	CA 2004-2531485	20040618
EP 1641759	A2	20060405	EP 2004-740026	20040618
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
PRIORITY APPLN. INFO.:			EP 2003-14556	20030707
			WO 2004-EP6573	20040618

AB Malonamide derivs. of formula A-D-B [wherein: D is (un)substituted bivalent malonamide moiety; A and B are independently selected from (hetero)aryl derivs.], useful as raf-kinase inhibitors (no biol. data), were prepared. For instance, malonamide derivative I was obtained via amidation of 3-[(4-chloro-3-trifluoromethylphenyl)amino]-2-oxo-propionic acid by 4-(4-pyridinyloxy)phenylamine with a yield of 57%.

## MSTR 1



G1 = aryl <containing 6-14 C>  
 (opt. substd. by (1-5) G4) / heterocycle <containing 1-2  
 heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), 3-10 C,  
 1 or more double bonds> (opt. substd. by (1-5) G4) /  
 (Specifically claimed: Ph (opt. substd. by 1 or more G20) /  
 46 / 48)



G2 = aryl <containing 6-14 C>  
(opt. substd. by (1-5) G4) / heterocycle <containing 1-2  
heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms), 3-10 C,  
1 or more double bonds> (opt. substd. by (1-5) G4) /  
(Specifically claimed: 54)

~~G17-G18~~  
54 55

G3 = phenylene (opt. substd. by (1-4) G4)  
G4 = H / carbon chain <containing 1 or more C,  
0 or more double bonds, no triple bonds> (opt. substd.) /  
cycloalkyl <containing 3 or more C> (opt. substd.) / F / Cl /  
Br / I / NO<sub>2</sub> / NH<sub>2</sub> (opt. substd.) / OH (opt. substd.) /  
heterocycle <containing 1-3 heteroatoms, 1 or more N,  
zero or more O, zero or more S (no other heteroatoms),  
attached through 1 or more N, 5- to 7-membered monocyclic  
ring> (opt. substd.) / 10 / 12 / OCN / NCO / R

$\overset{\text{C(O)G5}}{\underset{10}{\text{C}}} \quad \overset{\text{HC}}{\underset{12}{\text{C}}}=\text{CH}-\text{G6}$

G5 = OH (opt. substd.) / NH<sub>2</sub> (opt. substd.) /  
carbon chain <containing 1 or more C,  
0 or more double bonds, no triple bonds> (opt. substd.) / R  
G6 = CO<sub>2</sub>H (opt. substd.) / 15

$\text{H}_2\text{C}-\text{G7}$   
15

G7 = NH<sub>2</sub> (opt. substd.) / OH (opt. substd.)  
G8 = **bond** / carbon chain <containing 1 or more C,  
0 or more double bonds, no triple bonds> (opt. substd.) / O /  
S / NH (opt. substd.) / 17 / S(O) / SO<sub>2</sub> /  
R <"bridging group">

$\overset{\text{C}}{\underset{17}{\text{C}}}=\text{G9}$

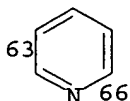
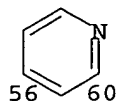
G9 = O / S / NH (opt. substd.)  
G10 = O / S / NH (opt. substd.) / 21 / 24

$\begin{array}{c} \text{G11} \\ \diagup \\ \text{C} \\ \diagdown \\ \text{21} \quad \text{NO}_2 \end{array} \quad \begin{array}{c} \text{G12} \\ \diagup \\ \text{C} \\ \diagdown \\ \text{24} \quad \text{CN} \end{array}$

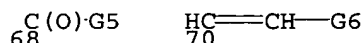
G11 = H / carbon chain <containing 1 or more C,  
0 or more double bonds, no triple bonds> (opt. substd.) / R  
G12 = H / carbon chain <containing 1 or more C,  
0 or more double bonds, no triple bonds> (opt. substd.) /  
CN / R  
G16 = CH<sub>2</sub> (opt. substd.) / carbocycle <containing 3-7 C,  
attached through 1 C> (opt. substd.) /

heterocycle <containing 1-3 heteroatoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms),  
2-6 C, attached through 1 C> (opt. substd.)

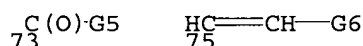
G17 = 56-6 60-55 / 63-6 66-55



G18 = H / carbon chain <containing 1 or more C,  
0 or more double bonds, no triple bonds> (opt. substd.) /  
cycloalkyl <containing 3 or more C> (opt. substd.) / F / Cl /  
Br / I / NO<sub>2</sub> / NH<sub>2</sub> (opt. substd.) / OH (opt. substd.) /  
heterocycle <containing 1-3 heteroatoms, 1 or more N,  
zero or more O, zero or more S (no other heteroatoms),  
attached through 1 or more N, 5- to 7-membered monocyclic  
ring> (opt. substd.) / 68 / 70 / OCN / NCO / R /  
(Specifically claimed: CONHMe)



G19 = H / carbon chain <containing 1 or more C,  
0 or more double bonds, no triple bonds> (opt. substd.) /  
cycloalkyl <containing 3 or more C> (opt. substd.) / F / Cl /  
Br / I / NO<sub>2</sub> / NH<sub>2</sub> (opt. substd.) / OH (opt. substd.) /  
heterocycle <containing 1-3 heteroatoms, 1 or more N,  
zero or more O, zero or more S (no other heteroatoms),  
attached through 1 or more N, 5- to 7-membered monocyclic  
ring> (opt. substd.) / 73 / 75 / OCN / NCO / R /  
(Specifically claimed: Bu-t)



G20 = R / (Specifically claimed: CF<sub>3</sub> / Cl / OMe / Me /  
Et / Br / SMe / COMe / OEt / Pr-i / OCF<sub>3</sub> / Bu-t)

Patent location: claim 3  
Note: and pharmaceutically acceptable derivatives, salts,  
and solvates  
Note: substitution is restricted  
Note: additional substitution also claimed

L71 ANSWER 29 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 142:134325 MARPAT  
TITLE: Preparation of ω-ureido alkanohydroxamic acid  
and related urea derivatives as histone deacetylase  
inhibitors  
INVENTOR(S): Kozikowski, Alan P.; Dritschilo, Anatoly; Jung, Mira;  
Petukhov, Pavel A.; Chen, Bin  
PATENT ASSIGNEE(S): USA  
SOURCE: U.S. Pat. Appl. Publ., 47 pp.  
CODEN: USXXCO  
DOCUMENT TYPE: Patent  
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

## PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005014839	A1	20050120	US 2003-614498	20030707
US 2005032831	A1	20050210	US 2004-843229	20040511
CA 2531661	AA	20050127	CA 2004-2531661	20040707
WO 2005007091	A2	20050127	WO 2004-US21663	20040707
WO 2005007091	A3	20050428		
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RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1644323	A2	20060412	EP 2004-777648	20040707
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				

## PRIORITY APPLN. INFO.:

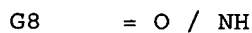
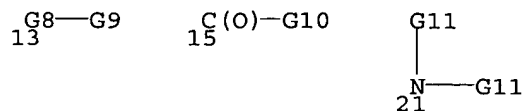
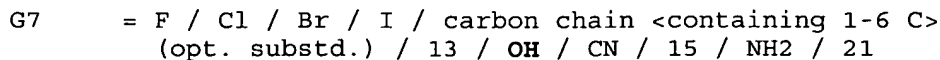
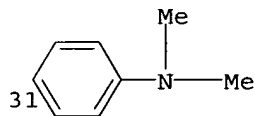
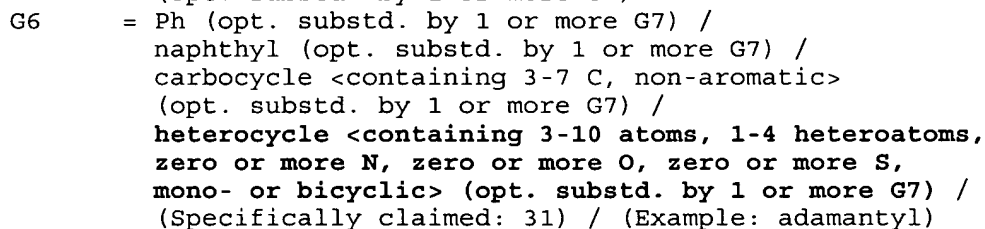
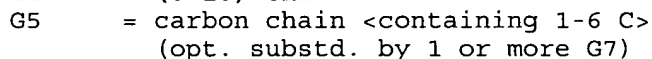
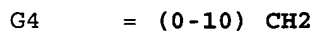
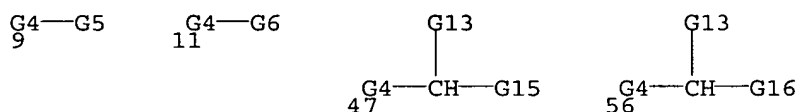
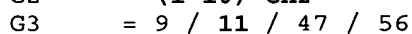
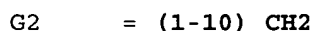
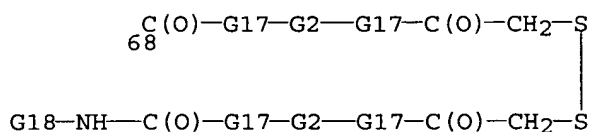
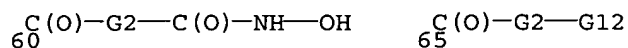
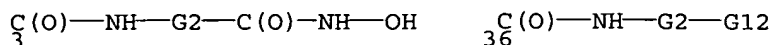
US 2003-614498	20030707
US 2004-843229	20040511
WO 2004-US21663	20040707

AB Urea derivs. of formula  $R_1(CH_2)_mNHCONH(CH_2)_nY$  [ $Y = CONHOH, COCH_2SH, NHC(O)CH_2SH$ ;  $R_1 = C1-6$  alkyl, aryl,  $C3-7$  cycloalkyl, or  $-3-$  to  $10-$ membered heterocycle, any of which may be unsubstituted or substituted with one or more of the following groups including halo,  $C1-6$  alkyl,  $C1-6$  alkoxy, OH, cyano,  $CO_2R'$ ,  $-OC(O)R'$ ,  $NHR'$ ,  $N(R')_2$ ,  $-NHC(O)R'$ , or  $-C(O)NHR'$  groups; wherein  $R'$  is H or unsubstituted  $C1-6$ , with the proviso that when  $n$  is 2,  $R_1$  cannot be  $C3-7$  cycloalkyl or  $3-$  to  $10-$ membered heterocycle;  $m, n =$  an integer ranging from  $1-10$ ] or pharmaceutically acceptable salts thereof are prepared. The invention provides novel classes of histone deacetylase (HDAC) inhibitors. Methods of sensitizing a cancer cell to the cytotoxic effects of radiotherapy are also provided as well as methods for treating cancer and methods for treating neurol. diseases. Addnl., the invention further provides pharmaceutical compns. comprising an HDAC inhibitor of the invention, and kits comprising a container containing an HDAC inhibitor of the invention. The above cancer is Non-Hodgkin's lymphoma, Hodgkin's disease, Ewing's sarcoma, testicular cancer, prostate cancer, larynx cancer, cervical cancer, nasopharynx cancer, breast cancer, col on cancer, pancreatic cancer, head and neck cancer, esophageal cancer, rectal cancer, small-cell lung cancer, non-small cell lung cancer, brain cancer, or a CNS neoplasm. Said disease of the central nervous system is Huntington's disease, lupus, or schizophrenia. Thus, hydrogenolysis of 4-[N'-(4-dimethylaminobenzyl)ureido]butyric acid benzyl ester over 10% Pd-C in MeOH under a hydrogen atmospheric for 18 h followed by condensation benzyloxyamine hydrochloride using EDCI in the presence of Et3N at room temperature for 18 h gave

N-Benzyloxy-4-[N'-(4-dimethylaminobenzyl)ureido]butyramide which underwent similar hydrogenolysis to give 4-[N'-(4-Dimethylaminobenzyl)ureido]-N-hydroxybutyramide (I). I and 8-[N'-(4-dimethylaminobenzyl)ureido]octanoic acid hydroxyamide inhibited histone deacetylase with IC50 of 800 and 700 nM, resp.

MSTR 1





G9 = carbon chain <containing 1-6 C> (opt. substd.) /  
CHO / 19

$\text{C}(\text{O})\text{---G11}$   
19

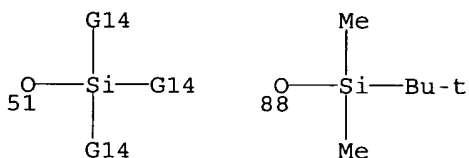
G10 = OH / 17 / NH<sub>2</sub> / 24

$\text{O}\text{---G11}$        $\text{HN}\text{---G11}$   
17                      24

G11 = carbon chain <containing 1-6 C>  
G12 = 40 / 43

$\text{C}(\text{O})\text{---CH}_2\text{---SH}$        $\text{HN}\text{---C}(\text{O})\text{---CH}_2\text{---SH}$   
40                              43

G13 = OH / 51 / (Example: 88)



G14 = carbon chain <containing 1-6 C> (opt. substd.)  
G15 = carbon chain <containing 1-6 C>  
(opt. substd. by 1 or more G7)  
G16 = Ph (opt. substd. by 1 or more G7) /  
naphthyl (opt. substd. by 1 or more G7) /  
carbocycle <containing 3-7 C, non-aromatic>  
(opt. substd. by 1 or more G7) /  
heterocycle <containing 3-10 atoms, 1-4 heteroatoms,  
zero or more N, zero or more O, zero or more S,  
mono- or bicyclic> (opt. substd. by 1 or more G7)  
G17 = NH / CH<sub>2</sub>  
G18 = 84 / 86

$\text{G4}\text{---G5}$        $\text{G4}\text{---G6}$   
84                      86

Patent location: claim 1  
Note: substitution is restricted  
Note: or pharmaceutically acceptable salts  
Note: also incorporates claim 9, structure II, claim 13,  
structure III, claim 18, structure IV, claim 19,  
structure V, and claim 23, structure VIII

L71 ANSWER 30 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 142:38140 MARPAT  
TITLE: Preparation of substituted pyrrole derivatives as  
HMG-CoA reductase inhibitors  
INVENTOR(S): Sattigeri, Jitendra; Salman, Mohammad; Kumar, Yatendra

PATENT ASSIGNEE(S): Ranbaxy Laboratories Limited, India  
 SOURCE: PCT Int. Appl., 72 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004105752	A1	20041209	WO 2004-IB1754	20040528
WO 2004105752	C1	20050929		
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AU 2004243247	A1	20041209	AU 2004-243247	20040528
CA 2527731	AA	20041209	CA 2004-2527731	20040528
EP 1643988	A1	20060412	EP 2004-735291	20040528
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				

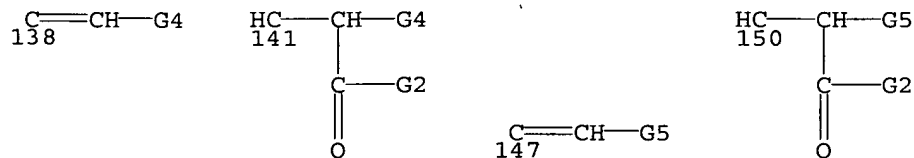
PRIORITY APPLN. INFO.: US 2003-448770 20030530  
 WO 2004-IB1754 20040528

AB Title compds. I [R1 = alkyl, cycloalkyl, Ph, etc.; R3 = alkyl, cycloalkyl, etc.; R2, R4-5 = H, alkyl, cycloalkyl, aralkyl, etc. or cyclized analogs thereof] are prepared For instance, the hemi-calcium salt of II is prepared in 6 steps via an appropriately substituted  $\beta$ -ketoamide and homochiral protected dihydroxy amine. Compds. of the invention exhibit IC50 in the range of 0.16 nM to 0.91 nM against HMG-CoA reductase. I are useful as cholesterol lowering agents and can be used for the treatment of cholesterol-related diseases and related symptoms.

MSTR 4A

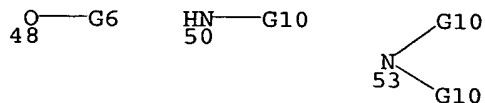
G7—C(O)-G1—C(O)-G12

G1 = CH2 / 138 / 141 / 147 / 150

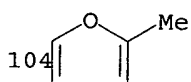


G2 = alkyl <containing 1-6 C> /  
 cycloalkyl <containing 3-6 C> /  
 Ph (opt. substd. by 1 or more G3)  
 G3 = halo / alkyl <containing 1-6 C> / OH / 48 /  
 alkoxy <containing 1-3 C> / CO2H / COMe / NH2 / 50 / 53 /

alkoxycarbonyl <containing 1-3 C> / CN /  
 perfluoroalkyl <containing 1-3 C> / (Specifically claimed: F)



G4 = H / cycloalkyl <containing 3-6 C> /  
 aryl <containing 6-14 C> (opt. substd. by 1 or more G14) /  
 heterocycle <containing zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)>  
 (opt. substd. by 1 or more G20) /  
 (Specifically claimed: pyridyl / thienyl / 4-pyridyl / 104)



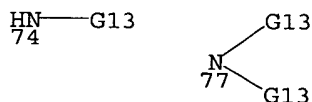
G5 = alkyl <containing 1-6 C> / 57

G15-G16  
 57

G6 = R <"protecting group">  
 G7 = cycloalkyl <containing 3-6 C>  
 (opt. substd. by 1 or more G8) /  
 dialkylamino <each alkyl containing 1-6 C>  
 (opt. substd. by 1 or more G8)  
 G8 = halo / OH / alkoxy <containing 1-3 C> / 55



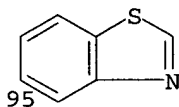
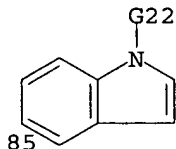
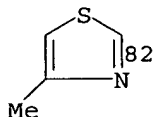
G10 = alkyl <containing 1-6 C> /  
 cycloalkyl <containing 3-6 C> /  
 alkylsulfonyl <containing 1-6 C> /  
 arylsulfonyl <containing 6-14 C> /  
 alkylcarbonyl <containing 1-6 C> /  
 arylcarbonyl <containing 6-14 C> /  
 alkylaminocarbonyl <containing 1-6 C> /  
 arylaminocarbonyl <containing 6-14 C>  
 G12 = NH2 / 74 / 77 / OCH2Ph



G13 = alkyl <containing 1-6 C> /  
 cycloalkyl <containing 3-6 C> /  
 aryl <containing 6-14 C> (opt. substd. by 1 or more G14) /  
 59 / heterocycle <containing zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)>  
 (opt. substd. by 1 or more G20) /

(Specifically claimed: Ph (opt. substd. by 1 or more G21) /  
82 / 85 / 95)

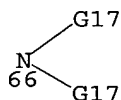
G15-G16  
59



G14 = alkyl <containing 1-6 C> (opt. substd. by OH) /  
alkylcarbonyl <containing 1-6 C> / halo / CN / OH / 61 /  
alkoxy <containing 1-6 C> / perfluoroalkyl <containing 1-3 C>  
/ alkylaminosulfonyl <containing 1-6 C> /  
arylamino sulfonyl <containing 6-14 C> /  
alkoxycarbonyl <containing 1-6 C> /  
aryloxy carbonyl <containing 6-14 C> / NH2 / 63 / 66

O—G6  
61

HN—G17  
63



G15 = alkylene <containing 1-6 C>  
G16 = aryl <containing 6-14 C>  
G17 = alkyl <containing 1-6 C>  
(opt. substd. by 1 or more G18) /  
cycloalkyl <containing 3-6 C> (opt. substd. by 1 or more G18)  
/ alkylsulfonyl <containing 1-6 C> /  
arylsulfonyl <containing 6-14 C> /  
alkylcarbonyl <containing 1-6 C> /  
arylcarbonyl <containing 6-14 C> / CONH2 /  
alkylaminocarbonyl <containing 1-6 C> /  
arylamino carbonyl <containing 6-14 C> /  
alkoxycarbonyl <containing 1-6 C> /  
aryloxy carbonyl <containing 6-14 C> /  
aryl <containing 6-14 C> (opt. substd. by 1 or more G19)  
G18 = halo / OH / alkoxy <containing 1-3 C> / 68 / CN

O—G6  
68

G19 = alkyl <containing 1-3 C> / halo / OH /  
alkoxy <containing 1-3 C> / 70 / CN

O—G6  
70

G20 = alkyl <containing 1-6 C>  
(opt. substd. by 1 or more G18) /  
cycloalkyl <containing 3-6 C> (opt. substd. by 1 or more G18)  
/ halo / OH / 72 / alkoxy <containing 1-3 C> / CN /  
perfluoroalkyl <containing 1-3 C> /  
aryl <containing 6-14 C> (opt. substd. by 1 or more G19)

O—G6  
72

G21 = alkylcarbonyl <containing 1-3 C> / halo /  
alkoxy <containing 1-3 C> / OH / COMe / F / OMe

G22 = H / Me

Patent location: claim 53

Note: also incorporates claim 54

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 31 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 142:698 MARPAT

TITLE: Pharmaceutical composition containing histone  
deacetylase inhibitor

INVENTOR(S): Nakanishi, Osamu; Sugawara, Tatsuo; Migita, Hideyuki;  
Matsuba, Yasuhiro

PATENT ASSIGNEE(S): Schering Aktiengesellschaft, Germany

SOURCE: PCT Int. Appl., 46 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

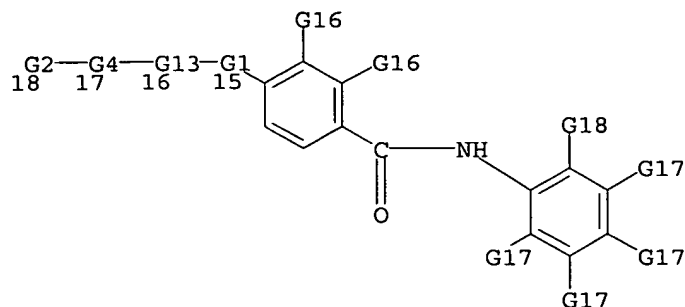
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

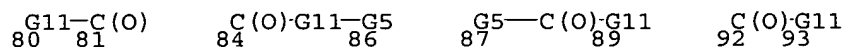
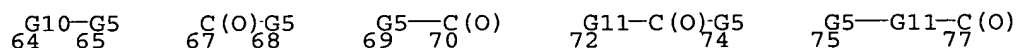
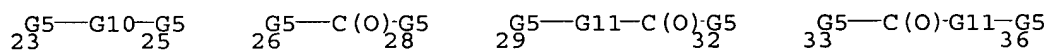
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004103369	A1	20041202	WO 2004-JP7562	20040526
W:				
AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW:				
BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2004241873	A1	20041202	AU 2004-241873	20040526
CA 2527191	AA	20041202	CA 2004-2527191	20040526
EP 1626719	A1	20060222	EP 2004-734923	20040526
R:				
AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
CN 1794991	A	20060628	CN 2004-80014633	20040526
BR 2004010959	A	20060704	BR 2004-10959	20040526
NO 2005005417	A	20051219	NO 2005-5417	20051116
PRIORITY APPLN. INFO.:			JP 2003-148073	20030526
			WO 2004-JP7562	20040526

AB An anticancer drug having a synergistic effect by combined use of a histone acetylase derivative such as N-(2-aminophenyl)-4-[N-(pyridin-3-ylmethoxycarbonyl) aminomethyl]benzamide (MS-275) and another anticancer active substance.

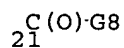
MSTR 1A



- G1 = (0-4) CH2  
 G2 = Ph (opt. substd. by (1-4) G3) /  
 heterocycle <containing zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), mono- or bicyclic>  
 (opt. substd. by (1-4) G3) / (Specifically claimed:  
 3-pyridyl)  
 G3 = F / Cl / Br / I / OH / NH2 / NO2 / CN /  
 alkyl <containing 1-4 C> / alkoxy <containing 1-4 C> /  
 alkyl <containing 1-4 C> (substd. by NH2) /  
 alkylamino <containing 1-4 C> /  
 dialkylamino <each alkyl containing 1-4 C> / CHO /  
 alkylcarbonyl <containing 1-4 C> / NHCHO /  
 alkylcarbonylamino <containing 1-4 C> /  
 alkylthio <containing 1-4 C> / perfluoroalkyl <containing  
 1-4 C> / perfluoroalkyloxy <containing 1-4 C> / CO2H /  
 alkoxy carbonyl <containing 1-4 C> / Ph /  
 heterocycle <containing zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), mono- or bicyclic>  
 G4 = G5 / 23-18 25-16 / 64-18 65-16 / 26-18 28-16 /  
 67-18 68-16 / 69-18 70-16 / C(O) / 29-18 32-16 /  
 33-18 36-16 / 72-18 74-16 / 75-18 77-16 / 80-18 81-16 /  
 84-18 86-16 / 87-18 89-16 / 92-18 93-16



- G5 = (1-4) CH2  
 G6 = alkyl <containing 1-4 C>  
 (opt. substd. by 1 or more G7) / 21



- G7 = R / (Examples: F / Cl / Br / I / OH / NH2 / NO2 /  
 CN / Ph / heterocycle <containing zero or more N,

zero or more O, zero or more S (no other heteroatoms),  
mono- or bicyclic>)

G8 = alkyl <containing 1-4 C>  
(opt. substd. by 1 or more G7) /  
perfluoroalkyl <containing 1-4 C> / Ph /  
heterocycle <containing zero or more N, zero or more O,  
zero or more S (no other heteroatoms), mono- or bicyclic>

G10 = O / NH / 19 / S

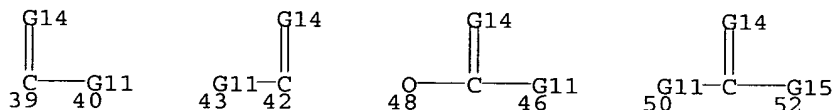
$\text{N} \text{---} \text{G6}$   
19

G11 = NH / 37

$\text{N} \text{---} \text{G12}$   
37

G12 = alkyl <containing 1-4 C>  
(opt. substd. by 1 or more G7)

G13 = 39-17 40-15 / 43-17 42-15 / 48-17 46-15 /  
50-17 52-15



G14 = O / S

G15 = O / NH / 53

$\text{N} \text{---} \text{G12}$   
53

G16 = 1 or more H / F / Cl / Br / I / OH / NH<sub>2</sub> /  
alkyl <containing 1-4 C> / alkoxy <containing 1-4 C> /  
alkyl <containing 1-4 C> (substd. by NH<sub>2</sub>) /  
alkylamino <containing 1-4 C> /  
dialkylamino <each alkyl containing 1-4 C> / CHO /  
alkylcarbonyl <containing 1-4 C> / NHCHO /  
alkylcarbonylamino <containing 1-4 C> /  
alkylthio <containing 1-4 C> / perfluoroalkyl <containing  
1-4 C> / perfluoroalkyloxy <containing 1-4 C> / CO<sub>2</sub>H /  
alkoxycarbonyl <containing 1-4 C>

G17 = 3 or more H / F / Cl / Br / I / OH / NH<sub>2</sub> /  
alkyl <containing 1-4 C> / alkoxy <containing 1-4 C> /  
alkyl <containing 1-4 C> (substd. by NH<sub>2</sub>) /  
alkylamino <containing 1-4 C> /  
dialkylamino <each alkyl containing 1-4 C> / CHO /  
alkylcarbonyl <containing 1-4 C> / NHCHO /  
alkylcarbonylamino <containing 1-4 C> /  
alkylthio <containing 1-4 C> / perfluoroalkyl <containing  
1-4 C> / perfluoroalkyloxy <containing 1-4 C> / CO<sub>2</sub>H /  
alkoxycarbonyl <containing 1-4 C>

G18 = OH / NH<sub>2</sub>

Patent location: claim 1

Note: or pharmaceutically acceptable salts



REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 32 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 141:395571 MARPAT

TITLE: Preparation of pyrazolopyrimidinones as phosphodiesterase 9 (PDE9) inhibitors for treating type 2 diabetes, metabolic syndrome, and cardiovascular disease.

INVENTOR(S): Bell, Andrew Simon; Deninno, Michael Paul; Palmer, Michael John; Visser, Michael Scott

PATENT ASSIGNEE(S): Pfizer Inc., USA

SOURCE: U.S. Pat. Appl. Publ., 26 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

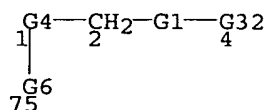
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004220186	A1	20041104	US 2004-828485	20040420
WO 2004096811	A1	20041111	WO 2004-IB1796	20040421
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
NL 1026091	A1	20041102	NL 2004-1026091	20040429
NL 1026091	C2	20050526		

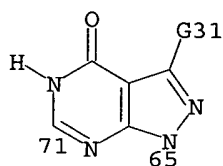
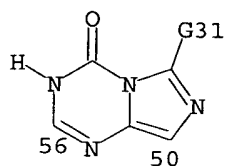
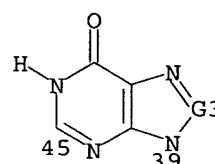
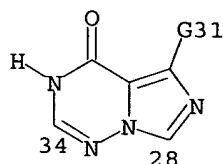
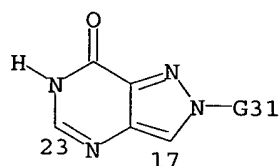
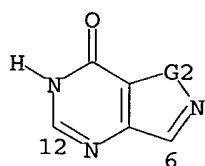
PRIORITY APPLN. INFO.: US 2003-466639P 20030430  
US 2004-828485 20040420

AB Title compds. [I; A = Q1, Q2, etc.; P = atoms to form (substituted) cycloalkyl, heterocycloalkyl, aryl, heteroaryl rings; J = O, S, NR15, NR15CO, NR15SO2; R10 = CO2H, CONR30R31, NR15SO2R40; R1, R2, R15 = H, alkyl; R3 = alkyl, cycloalkyl, cycloalkylmethyl, heterocycloalkyl, heterocycloalkylmethyl, aryl, heteroaryl; R30, R31 = H, (substituted) alkyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl; R30R31N = (substituted) 5-8 membered heterocyclyl; R40 = H, alkyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl; n = 1-3], were prepared Thus, Et 1-[[2-(3-isopropyl-7-oxo-6,7-dihydro-1H-pyrazolo[4,3-d]pyrimidin-5-ylmethyl)phenoxy]acetyl]pyrrolidine-2-carboxylate was heated with aqueous NaOH in MeOH for 2 h at 58° to give after acidification with HCl 1-[[2-(3-isopropyl-7-oxo-6,7-dihydro-1H-pyrazolo[4,3-d]pyrimidin-5-ylmethyl)phenoxy]acetyl]pyrrolidine-2-carboxylic acid. Some compds. inhibited PDE9 with IC50 <50 nM.

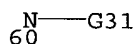
MSTR 1



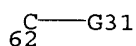
G1 = 12-2 6-4 / 23-2 17-4 / 34-2 28-4 / 45-2 39-4 /  
56-2 50-4 / 71-2 65-4



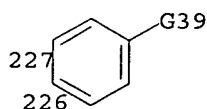
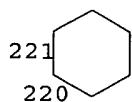
G2 = O / 60 / S



G3 = 62 / N

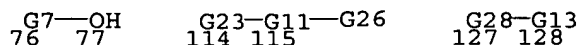


G4 = cycloalkylene <containing 3-8 C,  
attached through 2 or more C> (opt. substd. by (1-3) G5) /  
heterocycle <containing 3-8 atoms, 1 or more heteroatoms,  
zero or more N, zero or more O, zero or more S, 2 or more C,  
attached through 2 or more C, non-aromatic, saturated>  
(opt. substd. by (1-3) G5) / arylene <attached through 2 or  
more C> (opt. substd. by (1-3) G5) /  
heteroarylene <containing 1 or more heteroatoms,  
zero or more N, zero or more O, zero or more S, 2 or more C,  
attached through 2 or more C> (opt. substd. by (1-3) G5) /  
(Specifically claimed: 227-2 226-75 / 221-2 220-75 )

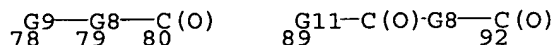


G5 = F / Cl / Br / I / alkyl <containing 1-5 C> /  
alkoxy <containing 1-5 C> / CF3

G6 = 76 / 114 / 127

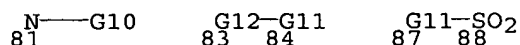


G7 = 78-1 80-77 / 89-1 92-77



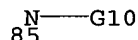
G8 = (0-6) CH<sub>2</sub>

G9 = O / S / NH / 81 / 83-1 84-79 / 87-1 88-79



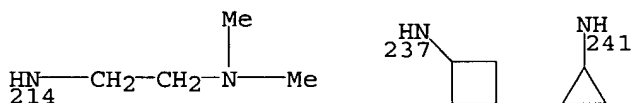
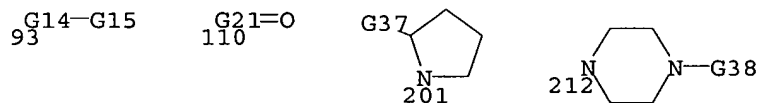
G10 = alkyl <containing 1-5 C>

G11 = NH / 85

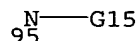


G12 = C(O) / SO<sub>2</sub>

G13 = NH<sub>2</sub> / 93 / heterocycle <containing 5-8 atoms,  
1-2 heteroatoms, 1 or more N, zero or more O,  
zero or more S (no other heteroatoms),  
attached through 1 or more N, non-aromatic, saturated>  
(opt. substd. by (1-3) G16) / 110 /  
(Specifically claimed: 201 / 212 / morpholino / NEt<sub>2</sub> / 214 /  
237 / 241)



G14 = NH / 95

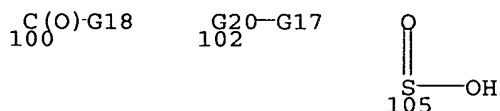


G15 = alkyl <containing 1-5 C>  
(opt. substd. by (1-3) G16) / cycloalkyl <containing 3-8 C>  
(opt. substd. by (1-3) G16) / heterocycle <containing 3-8  
atoms, 1 or more heteroatoms, zero or more N,  
zero or more O, zero or more S, non-aromatic, saturated>  
(opt. substd. by (1-3) G16) / aryl (opt. substd. by (1-3)  
G16) / heteroaryl <containing 1 or more heteroatoms,

zero or more N, zero or more O, zero or more S>  
(opt. substd. by (1-3) G16) / 112

$\text{G22}=\text{O}$   
112

G16 = F / Cl / Br / I / alkyl <containing 1-5 C> / 100 /  
alkylcarbonyl <containing 1-5 C> / OH / 102 / NH2 /  
heterocycle <containing 5-8 atoms, 1-2 heteroatoms,  
1 or more N, zero or more O, zero or more S (no other  
heteroatoms), attached through 1 N, non-aromatic, saturated>  
/ 105



G17 = alkyl <containing 1-5 C> /  
cycloalkyl <containing 3-8 C> /  
heterocycle <containing 3-8 atoms, 1 or more heteroatoms,  
zero or more N, zero or more O, zero or more S,  
non-aromatic, saturated> / aryl /  
heteroaryl <containing 1 or more heteroatoms,  
zero or more N, zero or more O, zero or more S>  
G18 = OH / 98 / H / cycloalkyl <containing 3-8 C> /  
heterocycle <containing 3-8 atoms, 1 or more heteroatoms,  
zero or more N, zero or more O, zero or more S,  
non-aromatic, saturated> / aryl /  
heteroaryl <containing 1 or more heteroatoms,  
zero or more N, zero or more O, zero or more S> / NH2

$\text{G19}\text{--G17}$   
98

G19 = O / NH / 97

$\text{N}\text{---G17}$   
97

G20 = O / NH / 108 / SO2

$\text{N}\text{---G17}$   
108

G21 = heterocycle <containing 5-8 atoms, 1-2 heteroatoms,  
1 or more N, zero or more O, zero or more S (no other  
heteroatoms), attached through 1 or more N, non-aromatic,  
saturated> (opt. substd.)  
G22 = carbon chain <containing 1-5 C, saturated>  
(opt. substd.) / carbocycle <containing 3-8 C, non-aromatic,  
saturated> (opt. substd.) / heterocycle <containing 3-8  
atoms, 1 or more heteroatoms, zero or more N,  
zero or more O, zero or more S, non-aromatic, saturated>  
(opt. substd.) / carbocycle <containing 6 or more C,

2 or more double bonds, 1 or more 6-membered rings>  
(opt. substd.) / heterocycle <containing 5 or more atoms,  
1 or more heteroatoms, zero or more N, zero or more O,  
zero or more S, 1 or more double bonds> (opt. substd.)

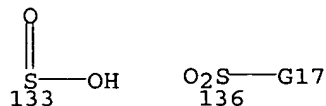
G23 = O / S / NH / 138 / 140-1 141-115 / 142-1 143-115 /  
116-1 117-115 / 118-1 120-115

G24-G27      G11-C(O)-G8      N-G10      G12-G11      G11-SO<sub>2</sub>  
116 117      118      120      138      140 141      142 143

G24 = O / S / NH / 121 / 123-1 124-117 / 125-1 126-117

N-G10      G12-G11      G11-SO<sub>2</sub>  
121      123 124      125 126

G26 = 133 / 136



G27 = (1-6) CH<sub>2</sub>

G28 = 129-1 131-128 / 150-1 153-128 / O / S / NH / 154 /  
156-1 157-128 / 158-1 159-128 / 160-1 161-128 /  
168-1 170-128

G29-G8-C(O)      G11-C(O)-G8-C(O)      N-G10      G12-G11  
129 130 131      150      153      154      156 157

G11-SO<sub>2</sub>      G30-G27      G11-C(O)-G8  
158 159      160 161      168      170

G29 = O / S / NH / 144 / 146-1 147-130 / 148-1 149-130


N-G10      G12-G11      G11-SO<sub>2</sub>  
144      146 147      148 149

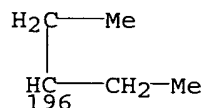
G30 = O / S / NH / 162 / 164-1 165-161 / 166-1 167-161

N-G10      G12-G11      G11-SO<sub>2</sub>  
162      164 165      166 167

G31 = H / alkyl <containing 1-5 C> /  
(Specifically claimed: Me)

G32 = alkyl <containing 1-8 C>  
(opt. substd. by (1-3) G33) / cycloalkyl <containing 3-8 C>  
(opt. substd. by (1-3) G33) / 177 /  
heterocycle <containing 3-8 atoms, 1 or more heteroatoms,  
zero or more N, zero or more O, zero or more S,  
non-aromatic, saturated> (opt. substd. by (1-3) G33) /  
aryl (opt. substd. by (1-3) G33) /

$\text{G21=O}$   $\text{H}_2\text{C}-\text{G34}$   $\begin{array}{c} \text{G36} \quad \text{Me} \\ | \quad | \\ \text{HC}-\text{CH}-\text{Me} \\ 181 \end{array}$    $\begin{array}{c} \text{Me} \\ | \\ \text{H}_2\text{C}-\text{CH}-\text{CH}_2-\text{Me} \\ 191 \end{array}$



G35=0  
179

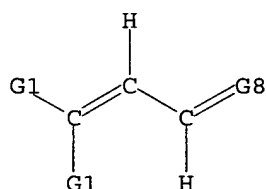
G36 = Me / Pr-i  
G37 = CO<sub>2</sub>H / H / CO<sub>2</sub>Me  
G38 = H / Et / CO<sub>2</sub>Bu-t  
G39 = H / Cl / F

L71 ANSWER 33 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 141:354828 MARPAT  
TITLE: Water-in-oil emulsions containing a surface-active  
polyolefinic derivative and 4,4-diarylbutadiene  
INVENTOR(S): L'Alloret, Florence  
PATENT ASSIGNEE(S): L'oreal, Fr.  
SOURCE: Fr. Demande, 26 pp.  
CODEN: FRXXBL  
DOCUMENT TYPE: Patent  
LANGUAGE: French  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

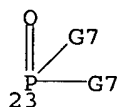
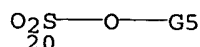
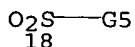
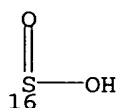
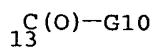
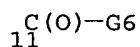
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2853538	A1	20041015	FR 2003-4649	20030414
FR 2853538	B1	20060623		
EP 1468673	A1	20041020	EP 2004-290650	20040310
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
JP 2004315529	A2	20041111	JP 2004-119672	20040414
US 2004223925	A1	20041111	US 2004-823735	20040414
PRIORITY APPLN. INFO.:			FR 2003-4649	20030414
			US 2003-468114P	20030506

AB An water-in-oil emulsion comprises a polymeric surfactant made up of a polar part, a non-polar polyolefinic part, a UV-A filter of 4,4-diarylbutadiene- type. The emulsion is stable, and has a good photoprotective property. A photoprotective cream contained Lubrizol-5603 1.92, isohexadecane 1, squalane 0.68, dimethicone 0.96, apricot oil 1, octyl-methoxycinnamate 3.0, 1,1 -dicarboxy-(2'2'-dimethyl-propyl)-4,4-diphenylbutadiene 1.32, glycerin 5, preservatives q.s., and water q.s. 84.12%.

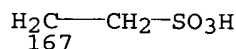
## MSTR 1



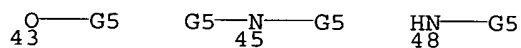
- G1 = Ph (opt. substd. by (1-3) G2)
- G2 = carbon chain <containing 1-20 C, 0 or more double bonds, no triple bonds> / alkoxy <containing 1-12 C> / carbocycle <containing 3-10 C, 0 or more double bonds, no triple bonds> / alkoxycarbonyl <containing 1-20 C> / alkylamino <containing 1-12 C> / dialkylamino <each alkyl containing 1-12 C> / aryl <containing 6 or more C> / heteroaryl <containing zero or more N, zero or more O, zero or more S (no other heteroatoms)> / CO2H (opt. substd.) / SO3H (opt. substd.) / NH2 (opt. substd.) / (Example: Me)
- G3 = carbon chain <containing 1-20 C, 0 or more double bonds, no triple bonds> (opt. substd.)
- G4 = 11 / 13 / CN / 16 / 18 / SO3H / 20 / 23 / carbocycle <containing 3-10 C, 0 or more double bonds, no triple bonds, mono- or bicyclic> / aryl <containing 6-18 C> (opt. substd.) / heteroaryl <containing zero or more N, zero or more O, zero or more S (no other heteroatoms), 3-7 C> (opt. substd.) / carbon chain <containing 1-20 C, 0 or more double bonds, no triple bonds> (opt. substd.) / (Specifically claimed: Ph / naphthyl / thienyl)



G5 = carbon chain <containing 1-20 C, 0 or more double bonds, no triple bonds> (opt. substd.) / carbocycle <containing 3-10 C, 0 or more double bonds, no triple bonds, mono- or bicyclic> / aryl <containing 6-18 C> (opt. substd.) / heteroaryl <containing zero or more N, zero or more O, zero or more S (no other heteroatoms)> (opt. substd.) / (Specifically claimed: Ph / naphthyl / CH<sub>2</sub>Me<sub>3</sub> / Et) / (Examples: 167 / octyl)



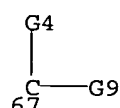
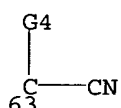
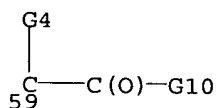
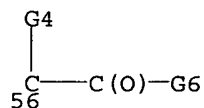
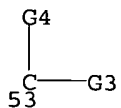
G6 = OH / 43 / 45 / NH<sub>2</sub> / 48 / H / carbocycle <containing 3-10 C, 0 or more double bonds, no triple bonds, mono- or bicyclic> / aryl <containing 6 or more C> (opt. substd.) / heteroaryl <containing zero or more N, zero or more O, zero or more S (no other heteroatoms)> (opt. substd.) / (Specifically claimed: Ph / naphthyl)



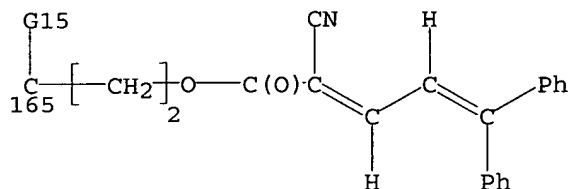
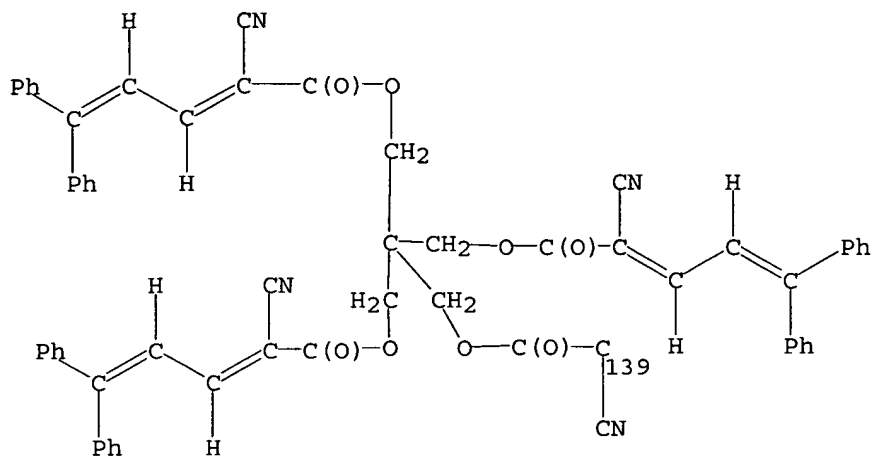
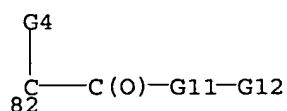
G7 = OH / 50



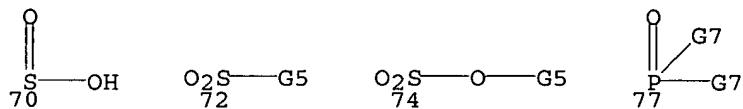
G8 = 53 / 56 / 59 / 63 / 67 / 82 / (Specifically claimed: 139 / 165)



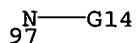




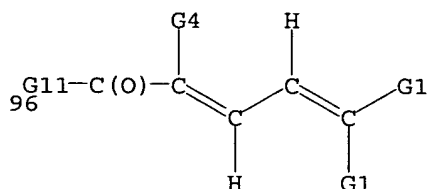
G9 = 70 / 72 / SO<sub>3</sub>H / 74 / 77 /  
 carbocycle <containing 3-10 C, 0 or more double bonds,  
 no triple bonds, mono- or bicyclic> /  
 aryl <containing 6-18 C> (opt. substd.) /  
 heteroaryl <containing zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), 3-7 C>  
 (opt. substd.) / (Specifically claimed: Ph / naphthyl /  
 thienyl)



G10 = carbon chain <containing 1-20 C,  
 0 or more double bonds, no triple bonds> (opt. substd.)  
 G11 = O / 97



- G12 = carbon chain <containing 2-10 C>  
(substd. by 1 or more G13) / any ring <containing zero or more N, zero or more O, zero or more S (no other heteroatoms), 3 or more C, 0 or more double bonds, no triple bonds, non-aromatic> (substd. by 1 or more G13)
- G13 = (1-10) 96 / OH / R / alkyl <containing 1-4 C>



- G14 = H / alkyl <containing 1-20 C> /  
alkenyl <containing 2-10 C> / cycloalkyl <containing 3-10 C>  
/ carbocycle <containing 3-10 C, 0 or more double bonds,  
no triple bonds, mono- or bicyclic> /  
aryl <containing 6 or more C> (opt. substd.) /  
heteroaryl <containing zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.)
- G15 = CN / CO2Et
- Patent location: claim 12
- Note: additional heteroatom interruptions also claimed
- Note: substitution is restricted
- Note: also incorporates claim 17, formula II

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 34 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 141:354810 MARPAT

TITLE: Oil-in-water emulsion obtained by phase inversion,  
based on nanopigments of metal oxides and  
4,4-diarylbutadiene derivatives

INVENTOR(S): Candau, Didier

PATENT ASSIGNEE(S): L'oreal, Fr.

SOURCE: Fr. Demande, 28 pp.  
CODEN: FRXXBL

DOCUMENT TYPE: Patent

LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1

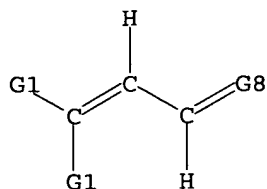
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2853536	A1	20041015	FR 2003-4645	20030414
FR 2853536	B1	20060623		
JP 2004315531	A2	20041111	JP 2004-119674	20040414
US 2004228813	A1	20041118	US 2004-823640	20040414
PRIORITY APPLN. INFO.:			FR 2003-4645	20030414
			US 2003-468059P	20030506

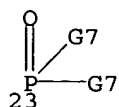
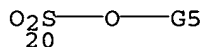
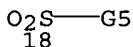
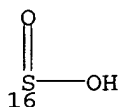
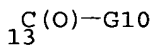
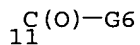
AB An oil-in-water emulsion obtained by phase inversion in which the average size of the globules which constitute the oily phase of the emulsion is between 100 and 1000 nm and contains mineral nanopigments based on metallic oxides and at least an organic UV filter, of the type 4,4-diarylbutadiene derivs. The emulsion is stable, and has a good photoprotective property. A photoprotective emulsion contained Mergital CS15 6.6, Tegin-90 3.4,

vaseline oil 33.0, octyl-methoxycinnamate 7.0, 1,1 -dicarboxy-(2'2'-dimethyl-propyl)-4,4-diphenylbutadiene 5, glycerin 3, titanium oxide nanopigments 5.0, preservatives q.s., and water q.s. 100%.

## MSTR 1

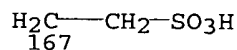


- G1 = Ph (opt. substd. by (1-3) G2)  
 G2 = carbon chain <containing 1-20 C, 0 or more double bonds, no triple bonds> / alkoxy <containing 1-12 C> / carbocycle <containing 3-10 C, 0 or more double bonds, no triple bonds> / alkoxy carbonyl <containing 1-20 C> / alkylamino <containing 1-12 C> / dialkylamino <each alkyl containing 1-12 C> / aryl <containing 6 or more C> / heteroaryl <containing zero or more N, zero or more O, zero or more S (no other heteroatoms)> / CO<sub>2</sub>H (opt. substd.) / SO<sub>3</sub>H (opt. substd.) / NH<sub>2</sub> (opt. substd.) / (Example: Me)  
 G3 = carbon chain <containing 1-20 C, 0 or more double bonds, no triple bonds> (opt. substd.)  
 G4 = 11 / 13 / CN / 16 / 18 / SO<sub>3</sub>H / 20 / 23 / carbocycle <containing 3-10 C, 0 or more double bonds, no triple bonds, mono- or bicyclic> / aryl <containing 6-18 C> (opt. substd.) / heteroaryl <containing zero or more N, zero or more O, zero or more S (no other heteroatoms), 3-7 C> (opt. substd.) / carbon chain <containing 1-20 C, 0 or more double bonds, no triple bonds> (opt. substd.) / (Specifically claimed: Ph / naphthyl / thienyl)

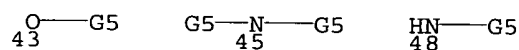


- G5 = carbon chain <containing 1-20 C, 0 or more double bonds, no triple bonds> (opt. substd.) / carbocycle <containing 3-10 C, 0 or more double bonds, no triple bonds, mono- or bicyclic> / aryl <containing 6-18 C> (opt. substd.) / heteroaryl <containing zero or more N, zero or more O,

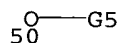
zero or more S (no other heteroatoms)> (opt. substd.) /  
 (Specifically claimed: Ph / naphthyl / CH<sub>2</sub>CMe<sub>3</sub> / Et) /  
 (Examples: 167 / octyl)



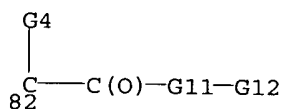
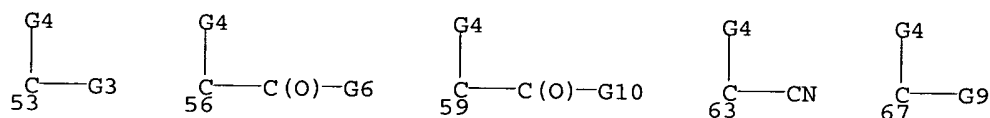
G6 = OH / 43 / 45 / NH<sub>2</sub> / 48 / H /  
 carbocycle <containing 3-10 C, 0 or more double bonds,  
 no triple bonds, mono- or bicyclic> /  
 aryl <containing 6 or more C> (opt. substd.) /  
 heteroaryl <containing zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.) /  
 (Specifically claimed: Ph / naphthyl)

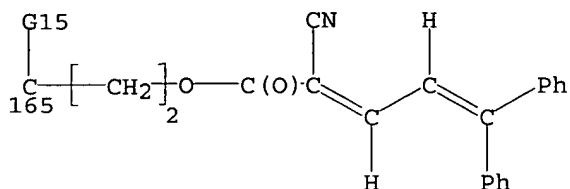
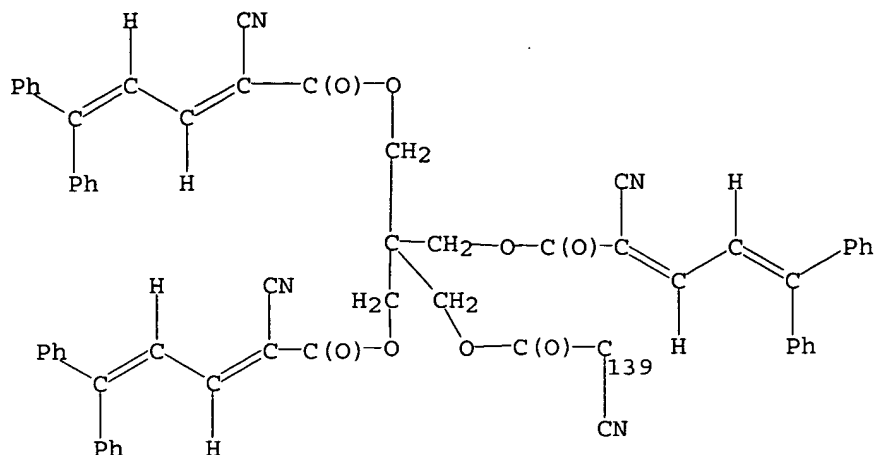


G7 = OH / 50

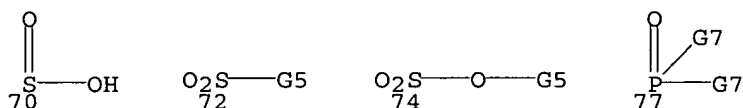


G8 = 53 / 56 / 59 / 63 / 67 / 82 /  
 (Specifically claimed: 139 / 165)

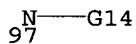




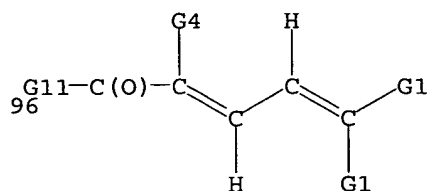
G9 = 70 / 72 / SO<sub>3</sub>H / 74 / 77 /  
 carbocycle <containing 3-10 C, 0 or more double bonds,  
 no triple bonds, mono- or bicyclic> /  
 aryl <containing 6-18 C> (opt. substd.) /  
 heteroaryl <containing zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), 3-7 C>  
 (opt. substd.) / (Specifically claimed: Ph / naphthyl /  
 thienyl)



G10 = carbon chain <containing 1-20 C,  
 0 or more double bonds, no triple bonds> (opt. substd.)  
 G11 = O / 97



G12 = carbon chain <containing 2-10 C>  
 (substd. by 1 or more G13) / any ring <containing zero or  
 more N, zero or more O, zero or more S (no other heteroatoms)  
 , 3 or more C, 0 or more double bonds, no triple bonds,  
 non-aromatic> (substd. by 1 or more G13)  
 G13 = (1-10) 96 / OH / R / alkyl <containing 1-4 C>



G14 = H / alkyl <containing 1-20 C> /  
 alkenyl <containing 2-10 C> / cycloalkyl <containing 3-10 C>  
 / carbocycle <containing 3-10 C, 0 or more double bonds,  
 no triple bonds, mono- or bicyclic> /  
 aryl <containing 6 or more C> (opt. substd.) /  
 heteroaryl <containing zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.)

G15 = CN / CO2Et

Patent location: claim 8  
 Note: additional heteroatom interruptions also claimed  
 Note: substitution is restricted  
 Note: also incorporates claim 13, formula II

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 35 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 141:354809 MARPAT

TITLE: Photoprotective composition comprising at least an  
 acrylamido-2-methylpropanesulfonic acid polymer and  
 4,4-diarylbutadiene sunscreens

INVENTOR(S): L'Alloret, Florence

PATENT ASSIGNEE(S): L'oreal, Fr.

SOURCE: Fr. Demande, 41 pp.

CODEN: FRXXBL

DOCUMENT TYPE: Patent

LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2853535	A1	20041015	FR 2003-4647	20030414
FR 2853535	B1	20060714		
EP 1468670	A1	20041020	EP 2004-290647	20040310
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
JP 2004315528	A2	20041111	JP 2004-119671	20040414
US 2004228815	A1	20041118	US 2004-823670	20040414
US 6905674	B2	20050614		

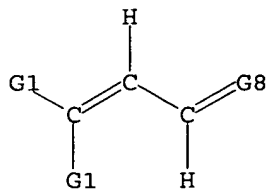
PRIORITY APPLN. INFO.: FR 2003-4647 20030414  
 US 2003-468089P 20030506

AB A photoprotective composition comprises at least an aqueous phase, at least an  
 oil

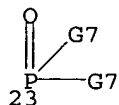
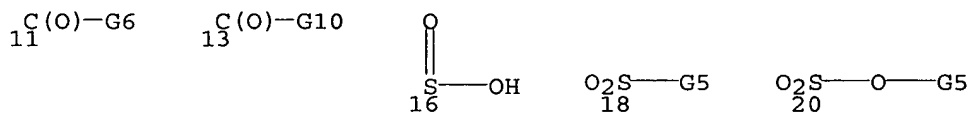
phase, and at least an acrylamido-2-methylpropanesulfonic acid polymer  
 neutralized, crosslinked and or non-crosslinked, and a UV-A radiation  
 filtering system of 4,4-diarylbutadiene type. A photoprotective cream  
 contained a mixture of glyceryl monostearate and polyethylene glycol  
 stearate (50:50) 2.5, polyethylene glycol monostearate 2.5, stearyl alc.  
 0.5, octyl-methoxycinnamate 7, 1,1 -dicarboxy-(2'2'-dimethyl-propyl)-4,4-

diphenylbutadiene 5, C12-15 alkyl benzoate 10, glycerin 3, Hostacerin AMPS 1, triethanolamine 0.01, preservatives 0.3, and water q.s. 100%.

## MSTR 1

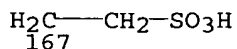


- G1 = Ph (opt. substd. by (1-3) G2)  
 G2 = carbon chain <containing 1-20 C,  
 0 or more double bonds, no triple bonds> /  
 alkoxy <containing 1-12 C> / carbocycle <containing 3-10 C,  
 0 or more double bonds, no triple bonds> /  
 alkoxycarbonyl <containing 1-20 C> /  
 alkylamino <containing 1-12 C> /  
 dialkylamino <each alkyl containing 1-12 C> /  
 aryl <containing 6 or more C> /  
 heteroaryl <containing zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> /  
 CO<sub>2</sub>H (opt. substd.) / SO<sub>3</sub>H (opt. substd.) /  
 NH<sub>2</sub> (opt. substd.) / (Example: Me)  
 G3 = carbon chain <containing 1-20 C,  
 0 or more double bonds, no triple bonds> (opt. substd.)  
 G4 = 11 / 13 / CN / 16 / 18 / SO<sub>3</sub>H / 20 / 23 /  
 carbocycle <containing 3-10 C, 0 or more double bonds,  
 no triple bonds, mono- or bicyclic> /  
 aryl <containing 6-18 C> (opt. substd.) /  
 heteroaryl <containing zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), 3-7 C>  
 (opt. substd.) / carbon chain <containing 1-20 C,  
 0 or more double bonds, no triple bonds> (opt. substd.) /  
 (Specifically claimed: Ph / naphthyl / thienyl)

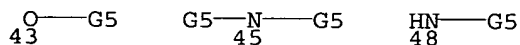


- G5 = carbon chain <containing 1-20 C,  
 0 or more double bonds, no triple bonds> (opt. substd.) /  
 carbocycle <containing 3-10 C, 0 or more double bonds,  
 no triple bonds, mono- or bicyclic> /  
 aryl <containing 6-18 C> (opt. substd.) /  
 heteroaryl <containing zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.) /

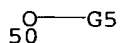
(Specifically claimed: Ph / naphthyl / CH<sub>2</sub>Me<sub>3</sub> / Et) /  
(Examples: 167 / octyl)



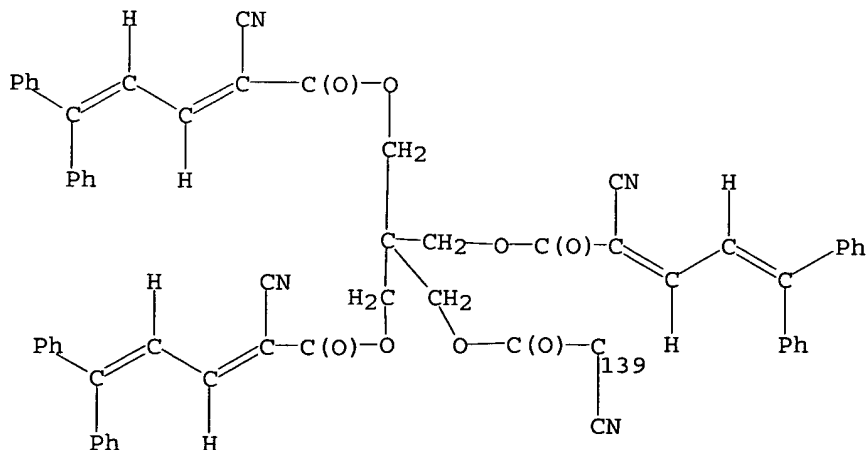
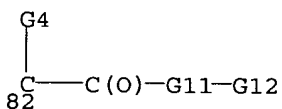
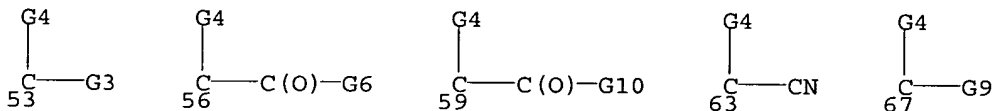
G6 = OH / 43 / 45 / NH<sub>2</sub> / 48 / H /  
carbocycle <containing 3-10 C, 0 or more double bonds,  
no triple bonds, mono- or bicyclic> /  
aryl <containing 6 or more C> (opt. substd.) /  
heteroaryl <containing zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.) /  
(Specifically claimed: Ph / naphthyl)



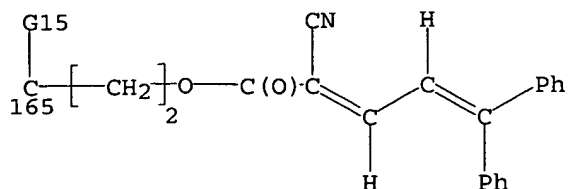
G7 = OH / 50



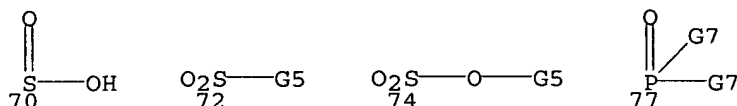
G8 = 53 / 56 / 59 / 63 / 67 / 82 /  
(Specifically claimed: 139 / 165)





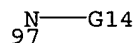


G9 = 70 / 72 / SO<sub>3</sub>H / 74 / 77 /  
 carbocycle <containing 3-10 C, 0 or more double bonds,  
 no triple bonds, mono- or bicyclic> /  
 aryl <containing 6-18 C> (opt. substd.) /  
 heteroaryl <containing zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), 3-7 C>  
 (opt. substd.) / (Specifically claimed: Ph / naphthyl /  
 thienyl)



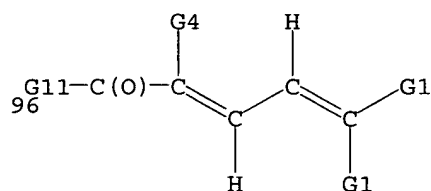
G10 = carbon chain <containing 1-20 C,  
 0 or more double bonds, no triple bonds> (opt. substd.)

G11 = 0 / 97



G12 = carbon chain <containing 2-10 C>  
 (substd. by 1 or more G13) / any ring <containing zero or  
 more N, zero or more O, zero or more S (no other heteroatoms)  
 , 3 or more C, 0 or more double bonds, no triple bonds,  
 non-aromatic> (substd. by 1 or more G13)

G13 = (1-10) 96 / OH / R / alkyl <containing 1-4 C>



G14 = H / alkyl <containing 1-20 C> /  
 alkenyl <containing 2-10 C> / cycloalkyl <containing 3-10 C>  
 / carbocycle <containing 3-10 C, 0 or more double bonds,  
 no triple bonds, mono- or bicyclic> /  
 aryl <containing 6 or more C> (opt. substd.) /  
 heteroaryl <containing zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.)

G15 = CN / CO<sub>2</sub>Et

Patent location:

claim 30

Note:

additional heteroatom interruptions also claimed

Note: substitution is restricted  
 Note: also incorporates claim 35, formula II

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 36 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 141:354808 MARPAT

TITLE: Photoprotective aqueous composition comprising at  
 least a diblock or triblock copolymer and  
 4,4-diarylbutadiene sunscreen

INVENTOR(S): L'Alloret, Florence

PATENT ASSIGNEE(S): L'oreal, Fr.

SOURCE: Fr. Demande, 37 pp.

CODEN: FRXXBL

DOCUMENT TYPE: Patent

LANGUAGE: French

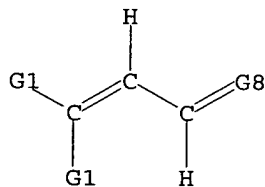
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2853534	A1	20041015	FR 2003-4646	20030414
FR 2853534	B1	20060623		
EP 1468669	A1	20041020	EP 2004-290587	20040304
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
JP 2004315824	A2	20041111	JP 2004-119675	20040414
US 2004223924	A1	20041111	US 2004-823659	20040414
PRIORITY APPLN. INFO.:			FR 2003-4646	20030414

AB A photoprotective composition comprises at least an aqueous phase, at least a water-soluble or hydrodispersible polymer of A-B diblock or A-B-C triblock structure where A is an ionic water-soluble polymeric block and B is a hydrophobic polymeric block and at least a UV-A radiation filtering system of 4,4-diarylbutadiene type. A photoprotective emulsion contained octyl-methoxycinnamate 7, 1,1-dicarboxy-(2,2-dimethyl-propyl)-4,4-diphenylbutadiene 5, C12-15 alkyl benzoate 10, glycerin 3, polystyrene-sodium polyacrylate diblock polymer 3, preservatives 0.3, and water q.s. 100%.

#### MSTR 1

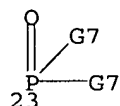
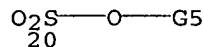
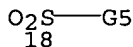
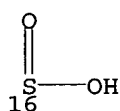
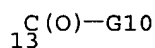
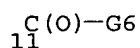


G1 = Ph (opt. substd. by (1-3) G2)

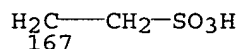
G2 = carbon chain <containing 1-20 C,  
 0 or more double bonds, no triple bonds> /  
 alkoxy <containing 1-12 C> / carbocycle <containing 3-10 C,  
 0 or more double bonds, no triple bonds> /  
 alkoxy carbonyl <containing 1-20 C> /  
 alkylamino <containing 1-12 C> /  
 dialkylamino <each alkyl containing 1-12 C> /

aryl <containing 6 or more C> /  
heteroaryl <containing zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> /  
CO<sub>2</sub>H (opt. substd.) / SO<sub>3</sub>H (opt. substd.) /  
NH<sub>2</sub> (opt. substd.) / (Example: Me)

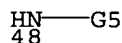
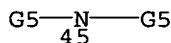
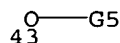
- G3 = carbon chain <containing 1-20 C,  
0 or more double bonds, no triple bonds> (opt. substd.)  
G4 = 11 / 13 / CN / 16 / 18 / SO<sub>3</sub>H / 20 / 23 /  
carbocycle <containing 3-10 C, 0 or more double bonds,  
no triple bonds, mono- or bicyclic> /  
aryl <containing 6-18 C> (opt. substd.) /  
heteroaryl <containing zero or more N, zero or more O,  
zero or more S (no other heteroatoms), 3-7 C>  
(opt. substd.) / carbon chain <containing 1-20 C,  
0 or more double bonds, no triple bonds> (opt. substd.) /  
(Specifically claimed: Ph / naphthyl / thienyl)



- G5 = carbon chain <containing 1-20 C,  
0 or more double bonds, no triple bonds> (opt. substd.) /  
carbocycle <containing 3-10 C, 0 or more double bonds,  
no triple bonds, mono- or bicyclic> /  
aryl <containing 6-18 C> (opt. substd.) /  
heteroaryl <containing zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.) /  
(Specifically claimed: Ph / naphthyl / CH<sub>2</sub>Me<sub>3</sub> / Et) /  
(Examples: 167 / octyl)

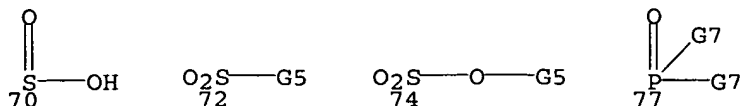


- G6 = OH / 43 / 45 / NH<sub>2</sub> / 48 / H /  
carbocycle <containing 3-10 C, 0 or more double bonds,  
no triple bonds, mono- or bicyclic> /  
aryl <containing 6 or more C> (opt. substd.) /  
heteroaryl <containing zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.) /  
(Specifically claimed: Ph / naphthyl)



- G7 = OH / 50

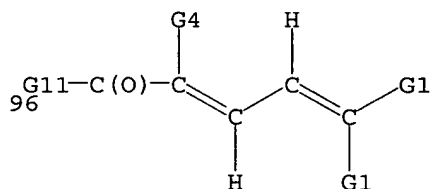




G10 = carbon chain <containing 1-20 C,  
 0 or more double bonds, no triple bonds> (opt. substd.)  
 G11 = 0 / 97



G12 = carbon chain <containing 2-10 C>  
 (substd. by 1 or more G13) / any ring <containing zero or  
 more N, zero or more O, zero or more S (no other heteroatoms)  
 , 3 or more C, 0 or more double bonds, no triple bonds,  
 non-aromatic> (substd. by 1 or more G13)  
 G13 = (1-10) 96 / OH / R / alkyl <containing 1-4 C>



G14 = H / alkyl <containing 1-20 C> /  
 alkenyl <containing 2-10 C> / cycloalkyl <containing 3-10 C>  
 / carbocycle <containing 3-10 C, 0 or more double bonds,  
 no triple bonds, mono- or bicyclic> /  
 aryl <containing 6 or more C> (opt. substd.) /  
 heteroaryl <containing zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.)  
 G15 = CN / CO<sub>2</sub>Et  
 Patent location: claim 23  
 Note: additional heteroatom interruptions also claimed  
 Note: substitution is restricted  
 Note: also incorporates claim 26, formula II

L71 ANSWER 37 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 141:353976 MARPAT  
 TITLE: Use of dispersants to improve the maintenance of  
 fluidity of cement compositions  
 INVENTOR(S): Dubois Brugger, Isabelle; Gratas, Mathieu; Mosquet,  
 Martin; Malbault, Olivier  
 PATENT ASSIGNEE(S): Chryso Sas, Fr.  
 SOURCE: Fr. Demande, 21 pp.  
 CODEN: FRXXBL  
 DOCUMENT TYPE: Patent  
 LANGUAGE: French  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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FR 2853646 A1 20041015 FR 2003-4566 20030411  
 CA 2521643 AA 20041028 CA 2004-2521643 20040409  
 WO 2004092092 A1 20041028 WO 2004-FR896 20040409

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
 RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

EP 1611068 A1 20060104 EP 2004-758929 20040409

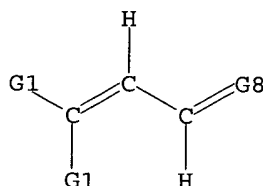
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PRIORITY APPLN. INFO.:

FR 2003-4566 20030411  
 WO 2004-FR896 20040409

AB The fluidity of freshly mixed cement compns. having slump 12-20 cm is improved during during open time by addition of polymers having CH<sub>2</sub>CHCO<sub>2</sub>X units (X = H, alkali metal, alkaline earth metal, or NH<sub>4</sub>) and CH<sub>2</sub>CHCO(OC<sub>2</sub>H<sub>4</sub>)<sub>n</sub>(OC<sub>3</sub>H<sub>6</sub>)<sub>m</sub>R units (R = C<sub>1</sub>-24 alkyl or C<sub>≤</sub>24 alkenyl, n = 0-120, m = 0-100, m < n, with the OC<sub>2</sub>H<sub>4</sub> and OC<sub>3</sub>H<sub>6</sub> groups being distributed randomly or orderly), with the content of the latter being 20-80% based on the total of the latter and former.

#### MSTR 1



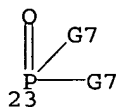
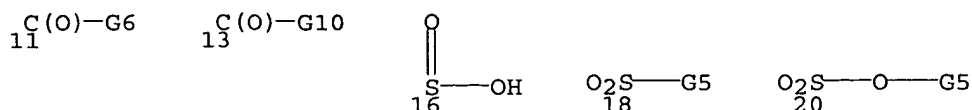
G1 = Ph (opt. substd. by (1-3) G2)

G2 = carbon chain <containing 1-20 C, 0 or more double bonds, no triple bonds> / alkoxy <containing 1-12 C> / carbocycle <containing 3-10 C, 0 or more double bonds, no triple bonds> / alkoxycarbonyl <containing 1-20 C> / alkylamino <containing 1-12 C> / dialkylamino <each alkyl containing 1-12 C> / aryl <containing 6 or more C> / heteroaryl <containing zero or more N, zero or more O, zero or more S (no other heteroatoms)> / CO<sub>2</sub>H (opt. substd.) / SO<sub>3</sub>H (opt. substd.) / NH<sub>2</sub> (opt. substd.) / (Example: Me)

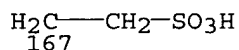
G3 = carbon chain <containing 1-20 C, 0 or more double bonds, no triple bonds> (opt. substd.)

G4 = 11 / 13 / CN / 16 / 18 / SO<sub>3</sub>H / 20 / 23 / carbocycle <containing 3-10 C, 0 or more double bonds, no triple bonds, mono- or bicyclic> / aryl <containing 6-18 C> (opt. substd.) / heteroaryl <containing zero or more N, zero or more O, zero or more S (no other heteroatoms), 3-7 C>

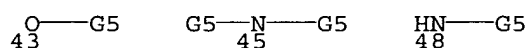
(opt. substd.) / carbon chain <containing 1-20 C,  
0 or more double bonds, no triple bonds> (opt. substd.) /  
(Specifically claimed: Ph / naphthyl / thienyl)



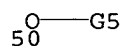
G5 = carbon chain <containing 1-20 C,  
0 or more double bonds, no triple bonds> (opt. substd.) /  
carbocycle <containing 3-10 C, 0 or more double bonds,  
no triple bonds, mono- or bicyclic> /  
aryl <containing 6-18 C> (opt. substd.) /  
heteroaryl <containing zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.) /  
(Specifically claimed: Ph / naphthyl / CH<sub>2</sub>CMe<sub>3</sub> / Et) /  
(Examples: 167 / octyl)



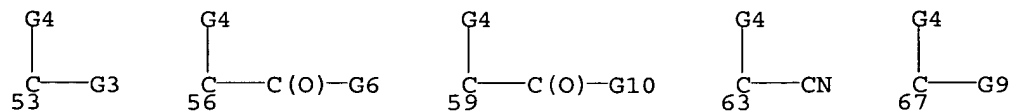
G6 = OH / 43 / 45 / NH<sub>2</sub> / 48 / H /  
carbocycle <containing 3-10 C, 0 or more double bonds,  
no triple bonds, mono- or bicyclic> /  
aryl <containing 6 or more C> (opt. substd.) /  
heteroaryl <containing zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.) /  
(Specifically claimed: Ph / naphthyl)

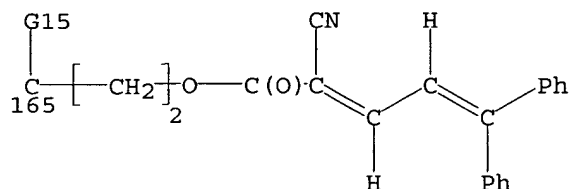
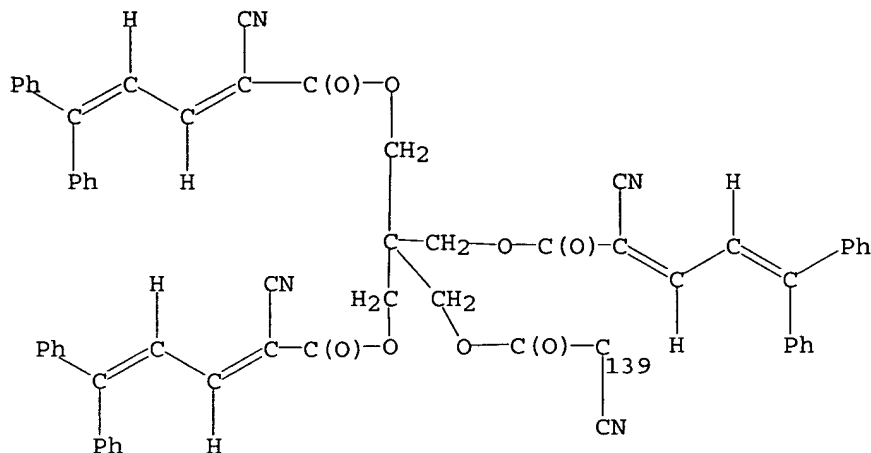
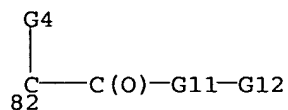


G7 = OH / 50

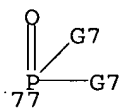
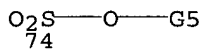
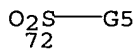
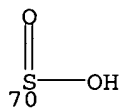


G8 = 53 / 56 / 59 / 63 / 67 / 82 /  
(Specifically claimed: 139 / 165)

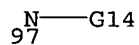




G9 = 70 / 72 / SO<sub>3</sub>H / 74 / 77 /  
 carbocycle <containing 3-10 C, 0 or more double bonds,  
 no triple bonds, mono- or bicyclic> /  
 aryl <containing 6-18 C> (opt. substd.) /  
 heteroaryl <containing zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), 3-7 C>  
 (opt. substd.) / (Specifically claimed: Ph / naphthyl /  
 thienyl)

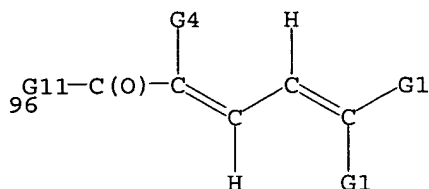


G10 = carbon chain <containing 1-20 C,  
 0 or more double bonds, no triple bonds> (opt. substd.)  
 G11 = 0 / 97





- G12 = carbon chain <containing 2-10 C>  
(substd. by 1 or more G13) / any ring <containing zero or more N, zero or more O, zero or more S (no other heteroatoms), 3 or more C, 0 or more double bonds, no triple bonds, non-aromatic> (substd. by 1 or more G13)
- G13 = (1-10) 96 / OH / R / alkyl <containing 1-4 C>



- G14 = H / alkyl <containing 1-20 C> / alkenyl <containing 2-10 C> / cycloalkyl <containing 3-10 C> / carbocycle <containing 3-10 C, 0 or more double bonds, no triple bonds, mono- or bicyclic> / aryl <containing 6 or more C> (opt. substd.) / heteroaryl <containing zero or more N, zero or more O, zero or more S (no other heteroatoms)> (opt. substd.)
- G15 = CN / CO2Et
- Patent location: claim 18
- Note: additional heteroatom interruptions also claimed
- Note: substitution is restricted
- Note: also incorporates claim 23, formula II

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 38 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 141:314159 MARPAT

TITLE: Preparation of lactam-containing cyclic diamines and derivatives as factor Xa inhibitors for treating thromboembolic disorders

INVENTOR(S): Qiao, Jennifer X.; Wang, Tammy C.; Wang, Gren Z.

PATENT ASSIGNEE(S): Bristol-Myers Squibb Company, USA

SOURCE: PCT Int. Appl., 260 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004082687	A1	20040930	WO 2004-US8088	20040317
<p>W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW</p> <p>RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG</p>				

US 2004204454 A1 20041014 US 2004-801469 20040316

EP 1603572 A1 20051214 EP 2004-757541 20040317

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK

PRIORITY APPLN. INFO.:

US 2003-455733P 20030318

US 2003-508232P 20031002

US 2004-801469 20040316

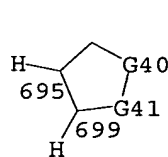
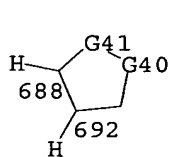
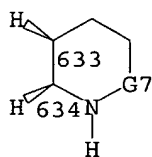
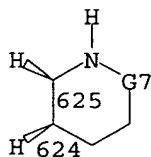
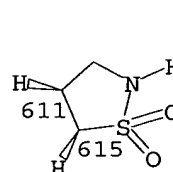
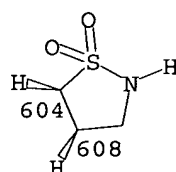
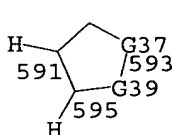
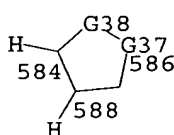
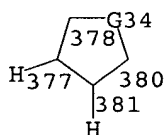
WO 2004-US8088 20040317

AB Title compds. of formula G-G1-M-Z-A-B [wherein M = central ring selected from (un)substituted optionally fused cyclopentane, or cyclohexane, (un)substituted tetrahydropyran, piperidine, piperidin-2-one, pyrrolidine, etc.; G = benzofused ring; G1 = (CH<sub>2</sub>)<sub>1-5</sub> and derivs., (un)substituted CH<sub>2</sub>:CH<sub>2</sub>, C(:O), NH, NHCO SO<sub>2</sub>NH, SO<sub>2</sub>NHCO, all of the above optionally substituted on one or both ends with alkylene groups, etc., with provisos; Z = NHCO, CONH, Z = (CH<sub>2</sub>)<sub>1-5</sub> and derivs., (un)substituted NHCO, CONH, CO, NHC(:S)NH, S, SO, SO<sub>2</sub>, SONH, SO<sub>2</sub>NH, all of the above optionally substituted on one or both ends with alkylene groups, etc.; A = (un)substituted carbo- or heeterocycle; B = lactam or sulfam bound to A ring through an optional linking group attached to the N, pharmaceutically acceptable salts] were prepared as inhibitors of trypsin-like serine proteases, specifically factor Xa, for treating thromboembolic disorders. For example, I was prepared by reductive amination of 4-(2-oxo-2H-pyridin-1-yl)benzaldehyde (preparation given) with (1R,2S)-5-Chlorothiophene-2-carboxylic acid (2-aminocyclopentyl)amide in CH<sub>2</sub>Cl<sub>2</sub> in the presence of NaBH(OAc)<sub>3</sub>/AcOH. Selected invention compds. displayed K<sub>i</sub> ≤ 10 μM in a spectrophotometrical assay using purified human factor Xa.

## MSTR 1A

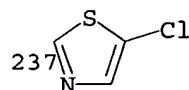
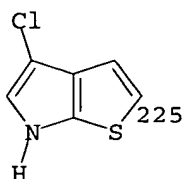
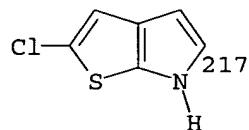
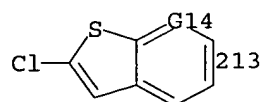
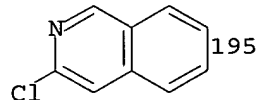
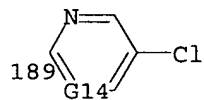
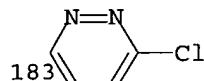
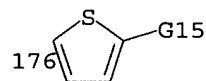
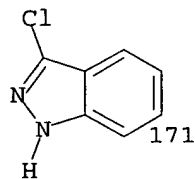
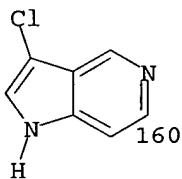
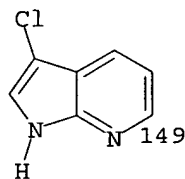
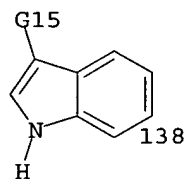
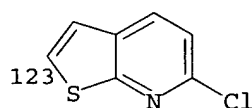
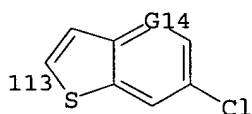
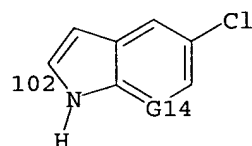
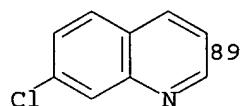
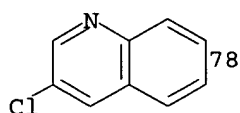
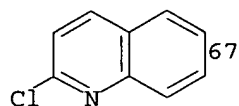
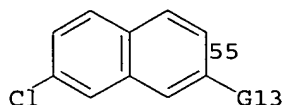
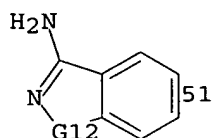
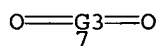
G2—G4—G1—G16—G18—G21  
 9 1 2 3 242 243

G1 = 377-1 381-3 / 688-1 692-3 / 695-1 699-3 /  
 584-1 588-3 / 591-1 595-3 / 604-1 608-3 / 611-1 615-3 /  
 625-1 624-3 / 633-1 634-3



G2 = any ring <containing 0-4 heteroatoms,  
 zero or more N, up to 2 O, up to 2 S (no other heteroatoms),  
 aromatic, 6 or more normalized bonds, bicyclic,  
 0 or more 5-membered, 1 or more 6-membered rings only>  
 (opt. substd.) / 4 / 7 / Ph (opt. substd. by 1 or more G11) /

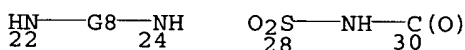
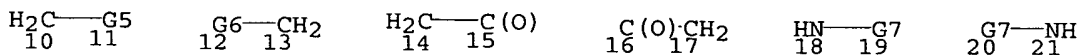
heterocycle <containing 1-2 heteroatoms,  
 1-2 N (no other heteroatoms), aromatic,  
 bonds all normalized, 6-membered monocyclic ring>  
 (opt. substd.) / heterocycle <containing 1-3 heteroatoms,  
 zero or more N, up to 1 O, up to 1 S (no other heteroatoms),  
 aromatic, 2 double bonds, 5-membered monocyclic ring>  
 (opt. substd.) / (Specifically claimed: 51 / 55 / 67 / 78 /  
 89 / 102 / 113 / 123 / 138 / 149 / 160 / 171 / 176 / 183 /  
 189 / 195 / 213 / 217 / 225 / 237)



G3 = any ring <containing 0-4 heteroatoms,

zero or more N, up to 2 O, up to 2 S (no other heteroatoms),  
aromatic, 6 or more normalized bonds, bicyclic,  
0 or more 5-membered, 1 or more 6-membered rings only>  
(opt. substd.)

G4 = carbon chain <containing 1 or more C,  
up to 1 double bond, up to 1 triple bond>  
(opt. substd. by 1 or more Ph) / (Specifically claimed: CH<sub>2</sub> /  
CH<sub>2</sub>CH<sub>2</sub> / CH=CH / 10-9 11-2 / 12-9 13-2 / C(O) / NH /  
14-9 15-2 / 16-9 17-2 / 18-9 19-2 / 20-9 21-2 /  
22-9 24-2 / 28-9 30-2 / SO<sub>2</sub>)

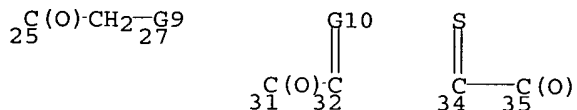


G5 = O / NH / S / SO<sub>2</sub>

G6 = O / NH / S / S(O) / SO<sub>2</sub>

G7 = C(O) / SO<sub>2</sub>

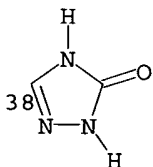
G8 = C(O) / 25-22 27-24 / 31-22 32-24 / 34-22 35-24



G9 = C(O) / bond

G10 = O / S

G11 = R / (Specifically claimed: Cl / CONH<sub>2</sub> / CH<sub>2</sub>NH<sub>2</sub> /  
SO<sub>2</sub>Me / SO<sub>2</sub>NH<sub>2</sub> / 38 / F / CN / OMe / Me / Et / SMe)



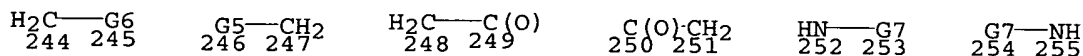
G12 = O / CH=CH / S

G13 = SO<sub>2</sub>NH<sub>2</sub> / SO<sub>2</sub>Me / CH<sub>2</sub>NH<sub>2</sub> / CONH<sub>2</sub> / H

G14 = N / CH

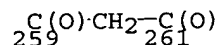
G15 = Cl / Me / F

G16 = carbon chain <containing 1 or more C,  
up to 1 double bond, up to 1 triple bond>  
(opt. substd. by 1 or more Ph) / (Specifically claimed: CH<sub>2</sub> /  
CH<sub>2</sub>CH<sub>2</sub> / 244-2 245-242 / 246-2 247-242 / C(O) / NH /  
248-2 249-242 / 250-2 251-242 / 252-2 253-242 /  
254-2 255-242 / 256-2 258-242 / 262-2 264-242 / SO<sub>2</sub>)

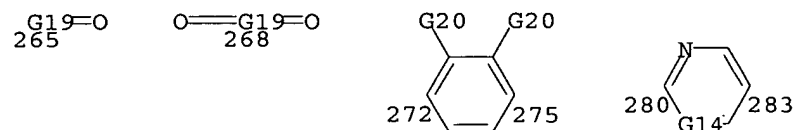




G17 = C(O) / 259-256 261-258



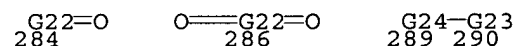
G18 = carbocycle <containing 3-10 C> (opt. substd.) /  
heterocycle <containing 5-12 atoms, 1-4 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.) / 265 /  
268 / (Specifically claimed: 272-3 275-243 / 280-3 283-243 )



G19 = carbocycle <containing 3-10 C> (opt. substd.) /  
heterocycle <containing 5-12 atoms, 1-4 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.)

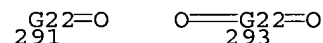
G20 = H / F / Me / Cl

G21 = 284 / 286 / 289 / (Specifically claimed: G32)

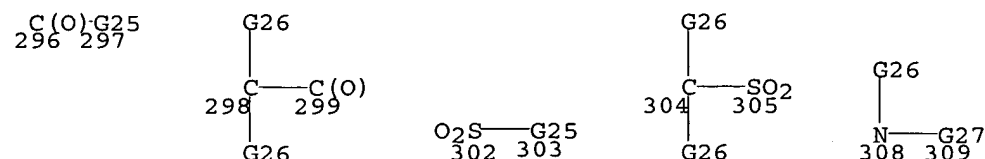


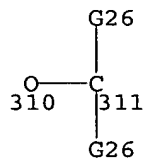
G22 = heterocycle <containing 4-7 atoms, 1-3 heteroatoms,  
1 or more N, zero or more O, zero or more S (no other  
heteroatoms), attached through 1 or more N, 1-3 rings>  
(opt. substd.) / heterocycle <containing 7-11 atoms,  
1-5 heteroatoms, 1 or more N, zero or more O,  
zero or more S (no other heteroatoms),  
attached through 1 or more N, aromatic,  
2 or more double bonds, 2-4 rings> (opt. substd.)

G23 = 291 / 293 / (Specifically claimed: G32)

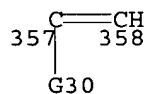


G24 = CH<sub>2</sub> (opt. substd.) / CH<sub>2</sub>CH<sub>2</sub> (opt. substd.) /  
CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub> (opt. substd.) / CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub> (opt. substd.) /  
296-242 297-290 / 298-242 299-290 / 302-242 303-290 /  
304-242 305-290 / 308-242 309-290 / 310-242 311-290

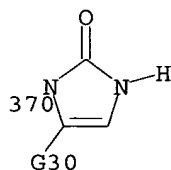
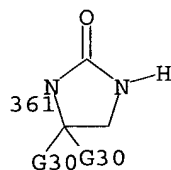
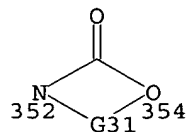
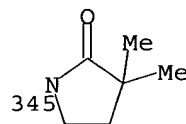
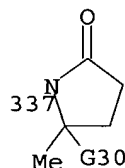
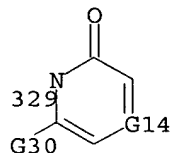
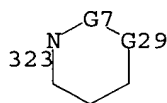
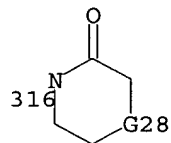




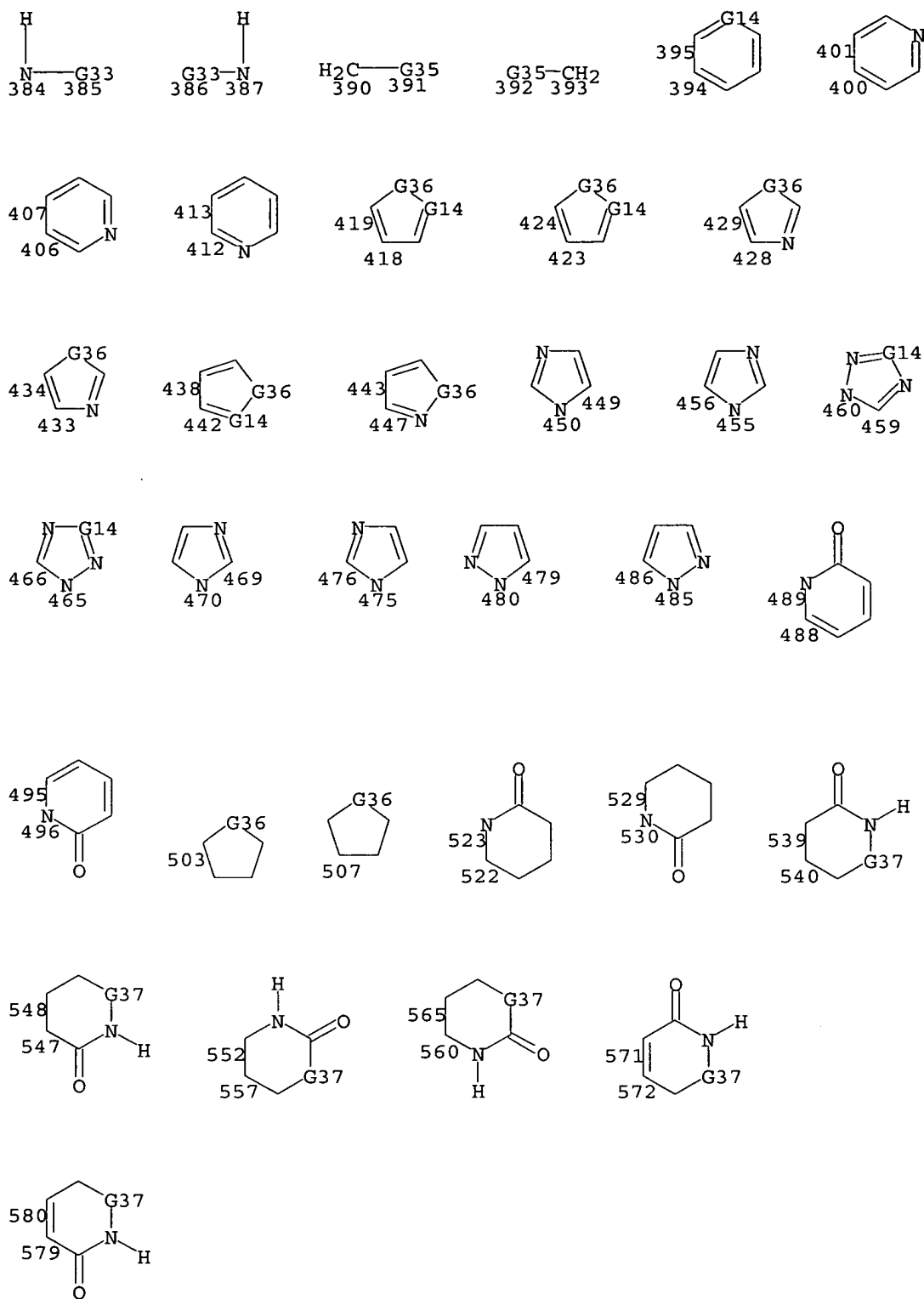
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 G26 = H / R  
 G27 = SO2 / CH2 (opt. substd.)  
 G28 = CH2CH2 / NH / O / bond  
 G29 = CH2 / NH  
 G30 = H / Me  
 G31 = CH2CH2 / 357-352 358-354 / CH2CH2CH2



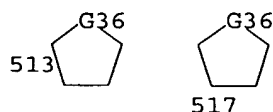
G32 = 323 / 316 / 329 / 337 / 345 / 352 / 361 / 370



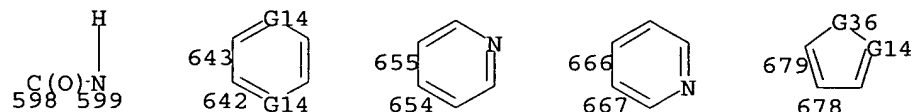
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 G34 = CH2 / NH / O / SO2 / CH2CH2 / 384-378 385-380 /  
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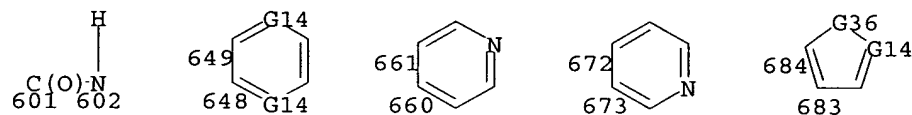
G35 = O / S02 / 513 / 517

G36 = O / S / SO<sub>2</sub> / CH<sub>2</sub> / NHG37 = (0-1) CH<sub>2</sub>

G38 = 598-584 599-586 / 643-584 642-586 /  
 655-584 654-586 / 666-584 667-586 / 678-584 679-586



G39 = 601-595 602-593 / 649-595 648-593 /  
 661-595 660-593 / 672-595 673-593 / 683-595 684-593

G40 = (1-2) CH<sub>2</sub>G41 = NH / O / SO<sub>2</sub>

Patent location:

claim 1

Note:

additional derivatization also claimed

Note:

or pharmaceutically acceptable salts

Note:

substitution is restricted

Stereochemistry:

or stereoisomers

L71 ANSWER 39 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 141:225302 MARPAT

TITLE: Preparation of N-arylheterocycles as melanin concentrating hormone (MCH) antagonists.

INVENTOR(S): Schwink, Lothar; Stengelin, Siegfried; Gossel, Matthias; Boehme, Thomas; Hessler, Gerhard; Stahl, Petra; Gretzke, Dirk

PATENT ASSIGNEE(S): Aventis Pharma Deutschland GmbH, Germany; Aventis Pharma GmbH

SOURCE: PCT Int. Appl., 390 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004072025	A2	20040826	WO 2004-EP1342	20040213
WO 2004072025	A3	20041223		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI



RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

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AU 2004212145	A1	20040826	AU 2004-212145	20040213
CA 2516118	AA	20040826	CA 2004-2516118	20040213
EP 1597228	A2	20051123	EP 2004-710808	20040213

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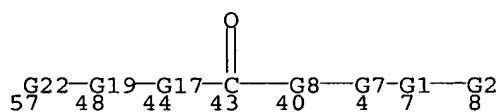
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US 2004220191	A1	20041104	US 2004-779853	20040217
NO 2005004220	A	20051028	NO 2005-4220	20050912

PRIORITY APPLN. INFO.:

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US 2003-488545P	20030718
WO 2004-EP1342	20040213

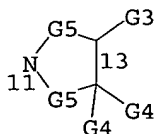
AB Title compds. [I; R1, R2 = H, alkyl, alkoxyalkyl, aryloxyalkyl, alkylcarbonyl, alkenylcarbonyl, etc.; R1R2N = atoms to form a 4-10 membered mono-, bi-, or spirocyclic (substituted) ring; R3 = H, alkyl; R4, R5 = H, alkyl, OH, alkoxy, alkylcarbonyloxy, alkylthio; R6-R9 = H, alkyl; R6R7, R8R9 = O; A, B, D, G = N, CR42; AB, DG = CR42; R42 = H, F, Cl, Br, iodo, CF3, NO2, cyano, OCF3, alkoxy, alkylthio, alkenyl, cycloalkyl, cycloalkoxy, cycloalkenyl, alkynyl, CO2H, etc.; R10 = H, alkyl, alkenyl, alkynyl; X = NR52, O, bond, C:C, C.tplbond.C, etc.; R52 = H, alkyl; E = (substituted) C3-14 carbocyclyl, heterocyclyl; K = bond, O, CH2O, S, SO, CO, C:C, C.tplbond.C, etc.; R11 = H, alkyl, alkoxyalkyl, alkenyl, alkynyl, 3-10 membered (substituted) mono-, bi-, tri- or spirocyclic ring; EKR11 = (unsatd.) tricyclic ring; m, n = 0-2], were prepared Thus, N-[1-(4-aminophenyl)pyrrolidin-3-yl]piperidine was treated with carbonyldiimidazole and then with 4-(4-chlorophenyl)piperidine to give 4-(4-chlorophenyl)piperidine-1-carboxylic acid [4-[3-(acetylmethylamino)pyrrolidin-1-yl]phenyl]amide. The latter at 30 mg/kg orally in female NMRI mice reduced milk consumption by 64%.

# MSTR 1

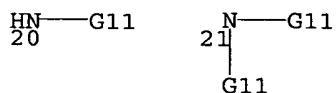


G1 = 9 / 11-4 13-8

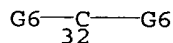
G10=O



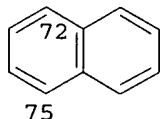
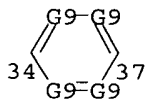
G2 = NH2 / heterocycle <containing 4-10 atoms, 1-5 heteroatoms, 1 or more N, zero or more O, zero or more S (no other heteroatoms), attached through 1 or more N> (opt. substd.) / 20 / 21



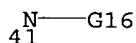
- G3 = H / alkyl <containing 1-6 C>  
 G4 = H / alkyl <containing 1-6 C> / OH /  
       alkoxy <containing 1-6 C> / alkylcarbonyloxy <containing 1-6  
       C> / alkylthio <containing 1-6 C>  
 G5 = (0-2) 32



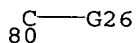
- G6 = H / alkyl <containing 1-6 C>  
 G7 = any ring <containing up to 10 atoms, 2 or more C,  
       zero or more N, zero or more O, zero or more S,  
       attached through 2 or more C, aromatic,  
       6 or more normalized bonds, bicyclic,  
       1 or more 6-membered rings> (opt. substd.) / 34-40 37-7 /  
       (Specifically claimed: 72-40 75-7 )



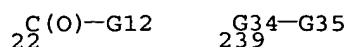
- G8 = NH / 41



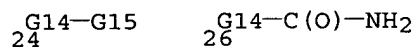
- G9 = N / 80



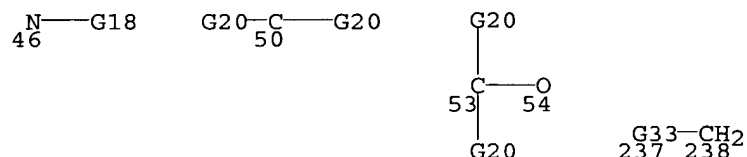
- G10 = heterocycle <containing 1 or more N,  
       attached through 1 or more N, 2 or more C> (opt. substd.)  
 G11 = alkyl <containing 1-8 C> (opt. substd.) / R /  
       alkyl <containing 1-4 C> (substd. by alkoxy <containing 1-4  
       C>) / alkyl <containing 1-4 C> (substd. by aryloxy) /  
       alkenyl <containing 3-8 C> / alkynyl <containing 3-8 C> /  
       alkylcarbonyl <containing 1-8 C> / 22 /  
       alkylcarbonyl <containing 1-4 C> (substd. by aryloxy) /  
       alkylcarbonyl <containing 1-4 C> (substd. by 239) /  
       aryloxycarbonyl (substd. by alkyl <containing 1-4 C>) /  
       alkenylcarbonyl <containing 2-8 C> /  
       alkynylcarbonyl <containing 2-8 C> /  
       alkylcarbonyl <containing 1-4 C> (substd. by G13) /  
       (Example: Me)



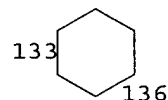
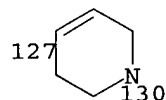
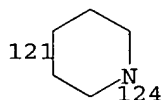
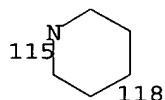
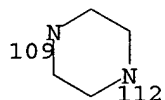
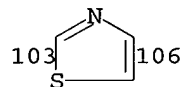
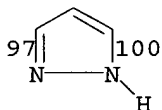
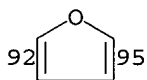
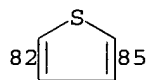
G12 = H / R / CH=CH2 / ethynyl / NH2 (opt. substd.) / 24 /  
CONH2 (opt. substd.) / 26 / OH (opt. substd.)

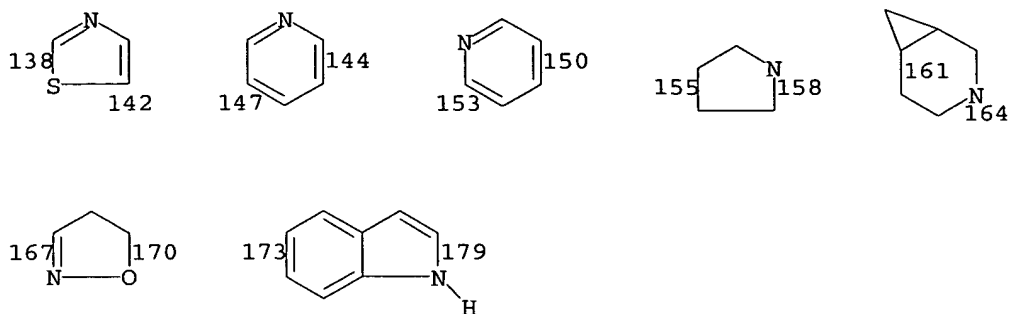


G13 = alkylthio <containing 1-4 C> /  
alkylsulfinyl <containing 1-4 C> /  
alkylsulfonyl <containing 1-4 C>  
G14 = (1-4) CH2  
G15 = NH2 (opt. substd.) / OH (opt. substd.)  
G16 = alkyl <containing 1-8 C> /  
alkenyl <containing 3-6 C> / alkynyl <containing 3-6 C>  
G17 = NH / 46 / O / bond / CH=CH / 50 / 53-48 54-43 /  
C(O) / ethynylene / G21 / alkylene <containing 2-6 C,  
unbranched> (opt. substd. by alkyl <containing 1-4 C>) /  
R <"linking group"> / (Specifically claimed: 237-48 238-43 )

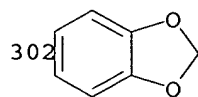
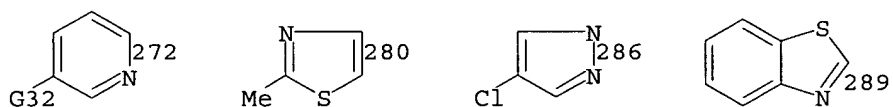
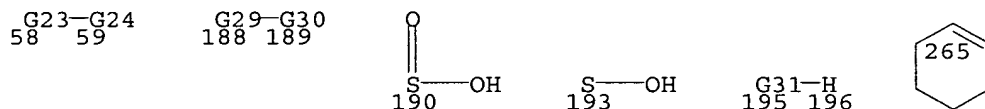


G18 = alkyl <containing 1-8 C>  
G19 = any ring <containing 3-14 atoms, 0-4 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.) /  
(Examples: p-C6H4 / 82-57 85-44 / 87-57 90-44 /  
92-57 95-44 / 97-57 100-44 / 103-57 106-44 /  
109-57 112-44 / 115-57 118-44 / 121-57 124-44 /  
127-57 130-44 / 133-57 136-44 / 138-57 142-44 /  
147-57 144-44 / 153-57 150-44 / 155-57 158-44 /  
161-57 164-44 / 167-57 170-44 / o-C6H4 / 173-57 179-44 )

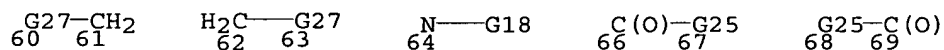


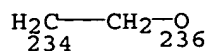


G20 = H / alkyl <containing 1-8 C>  
 G21 = (2-6) CH<sub>2</sub>  
 G22 = H / 58 / 188 / 190 / 193 / 195 /  
 any ring <containing 3-10 atoms, 0-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), 1-3 rings>  
 (opt. substd.) / carbon chain <containing 1-8 C,  
 0 or more double bonds, 0 or more triple bonds> /  
 alkyl <containing 1-4 C> (substd. by alkoxy <containing 1-4  
 C>) / (Examples: Pr-n / Bu-n / Bu-i / CH<sub>2</sub>CH<sub>2</sub>CHMe<sub>2</sub> /  
 cyclopropyl / cyclobutyl / cyclopentyl / cyclohexyl / 302 /  
 Ph (opt. substd. by 1 or more G28) / 265 / 272 / 280 / 286 /  
 289)

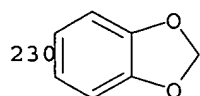
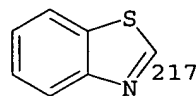
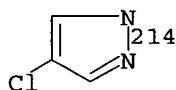
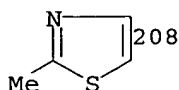
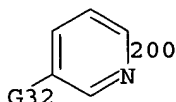


G23 = O / 60-48 61-59 / 62-48 63-59 / S / S(O) / SO<sub>2</sub> /  
 NH / 64 / 66-48 67-59 / 68-48 69-59 / C(O) / CH=CH /  
 ethynylene / alkylene <containing 1-6 C, unbranched>  
 (opt. substd. by alkyl <containing 1-4 C>) / G21 /  
 R <"linking group"> / (Examples: 234-48 236-59 / CH<sub>2</sub>)

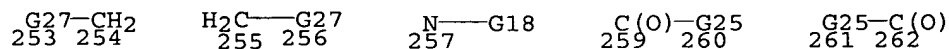




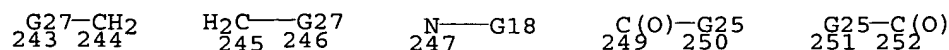
G24 = any ring <containing 3-10 atoms, 0-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), 1-3 rings> (opt. substd.) / (Examples: cyclopropyl / cyclobutyl / cyclopentyl / cyclohexyl / 184 / Ph (opt. substd. by 1 or more G28) / 200 / 208 / 214 / 217 / 230)



G25 = (1-6) CH<sub>2</sub>  
 G26 = H / R / (Specifically claimed: F / Cl / Br / CF<sub>3</sub> / CN / alkyl <containing 1-6 C>) / (Examples: Me / CH<sub>2</sub>OH)  
 G27 = O / (Specifically claimed: S / SO<sub>2</sub>)  
 G28 = F / Cl / Br / Me / OMe / CF<sub>3</sub> / SMe / CN / NO<sub>2</sub> / NH<sub>2</sub>  
 G29 = O / 253-48 254-189 / 255-48 256-189 / S / S(O) / SO<sub>2</sub> / NH / 257 / 259-48 260-189 / 261-48 262-189 / C(O) / CH=CH / ethynylene / alkylene <containing 1-6 C, unbranched> (opt. substd. by alkyl <containing 1-4 C>) / G21 / R <"linking group">



G30 = carbon chain <containing 1-8 C, 0 or more double bonds, 0 or more triple bonds> / alkyl <containing 1-4 C> (substd. by alkoxy <containing 1-4 C>) / (Examples: Pr-n / Bu-n / Bu-i / CH<sub>2</sub>CH<sub>2</sub>CHMe<sub>2</sub>)  
 G31 = O / 243-48 244-196 / 245-48 246-196 / S / S(O) / SO<sub>2</sub> / NH / 247 / 249-48 250-196 / 251-48 252-196 / C(O) / CH=CH / ethynylene / alkylene <containing 1-6 C, unbranched> (opt. substd. by alkyl <containing 1-4 C>) / G21 / R <"linking group">



G32 = Cl / F  
 G33 = O / S / NH / 241

N—G18  
241

G34 = S / S(O) / SO<sub>2</sub>

G35 = alkyl <containing 1-4 C>

Patent location: claim 1

Note: additional derivatization also claimed

L71 ANSWER 40 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 141:206827 MARPAT

TITLE: Preparation of malonamides and related compounds as  $\gamma$ -secretase inhibitors for the treatment of Alzheimer's disease.

INVENTOR(S): Galley, Guido; Goergler, Annick; Jacobsen, Helmut; Kitas, Eric Argirios; Peters, Jens-Uwe

PATENT ASSIGNEE(S): F. Hoffmann-La Roche A.-G., Switz.

SOURCE: PCT Int. Appl., 85 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

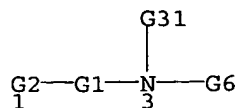
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PATENT INFORMATION:

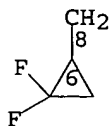
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NO 2005003627	A	20050810	NO 2005-3627	20050726
PRIORITY APPLN. INFO.:			EP 2003-2190	20030204
			WO 2004-EP674	20040127
AB Title compds. I [L = bond, (CH <sub>2</sub> ) <sub>1-2</sub> , CH(CH <sub>3</sub> ), etc.; C = cyclic ring, e.g., Ph, pyridinyl, furanyl, etc.; X = (R <sub>2</sub> ) <sub>1,2,3</sub> ; (R <sub>2</sub> ) <sub>1,2,3</sub> = H, OH, halo, etc.; R <sub>1</sub> , R <sub>1</sub> ' = H, alkyl, halo, etc.; R <sub>14</sub> = H, alkyl, (CH <sub>2</sub> ) <sub>2</sub> OH, etc.; A = substituted 5,7-dihydro-6H-dibenz[b,d]azepin-6-ones, 1,3-dihydro-5-phenyl-1,4-benzodiazepin-2-ones, 3,4-dihydro-2-quinolinones, etc.] and their pharmaceutically acceptable salts and formulations were prepared For example, coupling of 3-amino-1,3-dihydro-1-methyl-5-phenyl-2H-1,4-benzodiazepin-2-one and malonamic acid II, e.g., prepared from di-Et Me malonate in 3-steps, afforded malonamide III in 67% yield. In $\gamma$ -secretase inhibition assays, 37-examples of compds. I exhibited IC <sub>50</sub> values ranging from 0.003-0.11 $\mu$ M, the IC <sub>50</sub> value of malonamide				

III was 0.83  $\mu$ M. Compds. I are claimed useful for the treatment of Alzheimer's disease.

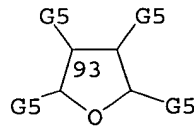
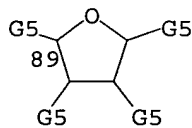
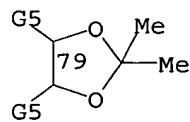
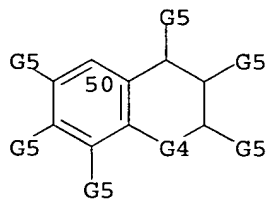
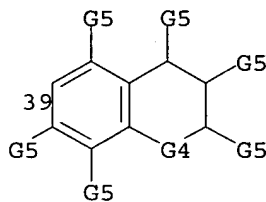
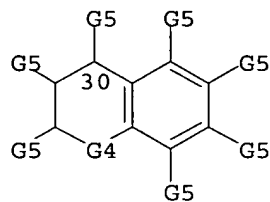
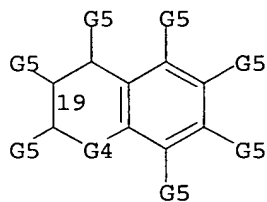
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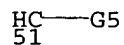
G1 = bond / CH<sub>2</sub> / CH<sub>2</sub>CH<sub>2</sub> / CHMe / 8-1 6-3



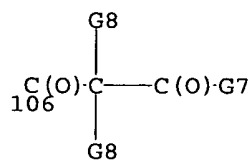
G2 = Ph (opt. substd. by (1-3) G3) /  
pyridyl (opt. substd. by (1-3) G3) /  
furyl (opt. substd. by (1-3) G3) /  
benzothienyl (opt. substd. by (1-3) G3) / 19 / 30 / 39 / 50 /  
79 / 89 / 93



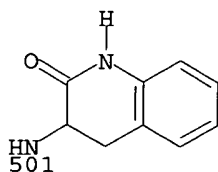
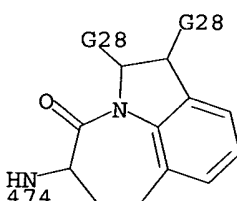
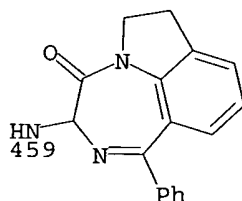
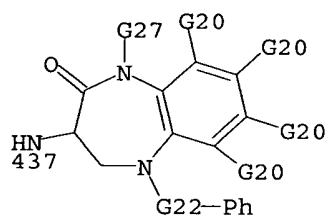
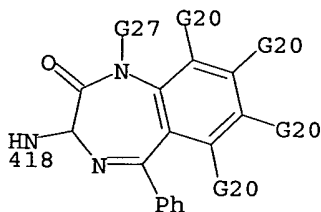
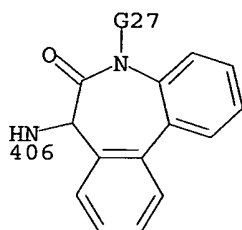
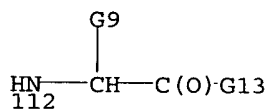
G3 = OH / F / Cl / Br / I / alkyl <containing 1-6 C> /  
alkoxy <containing 1-6 C> / CF<sub>3</sub>  
G4 = (0-1) 51



G5 = H / OH / F / Cl / Br / I /  
alkyl <containing 1-6 C> / alkoxy <containing 1-6 C> / CF<sub>3</sub>  
G6 = H / 106

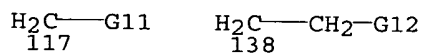


G7 = OH / 112 / 406 / 418 / 437 / 459 / 474 / 501



G8 = H / alkyl <containing 1-6 C> / F / Cl / Br / I /  
CH<sub>2</sub>Ph / loweralkenyl / (Specifically claimed: Me / Pr-i /  
Et / Pr-n)

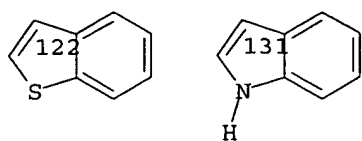
G9 = Ph (opt. substd. by (1-2) G10) / 117 /  
alkyl <containing 1-6 C> / H / 138



G10 = F / Cl / Br / I / CN

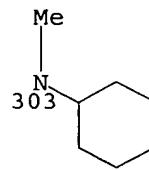
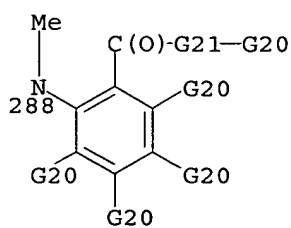
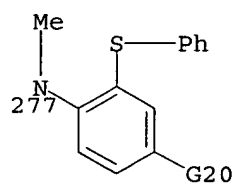
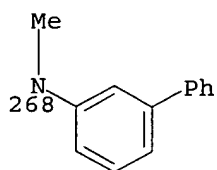
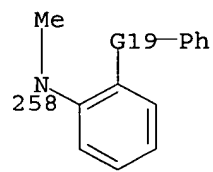
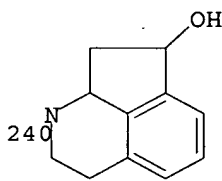
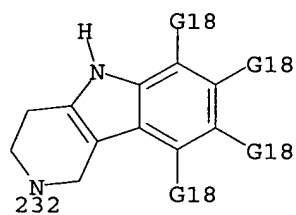
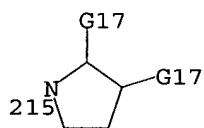
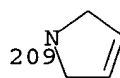
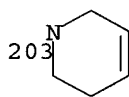
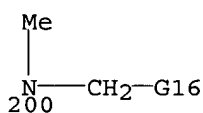
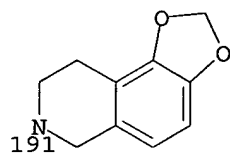
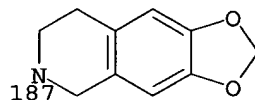
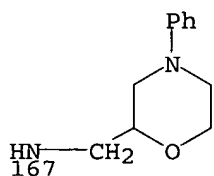
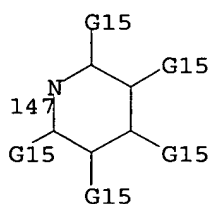
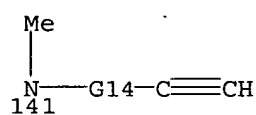
G11 = Ph (opt. substd. by (1-2) G10) /  
alkylthio <containing 1-6 C> / cycloalkyl <containing 3-7 C>  
/ OH / OCH<sub>2</sub>Ph / 122 / 131

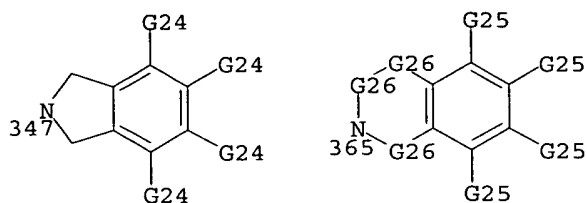
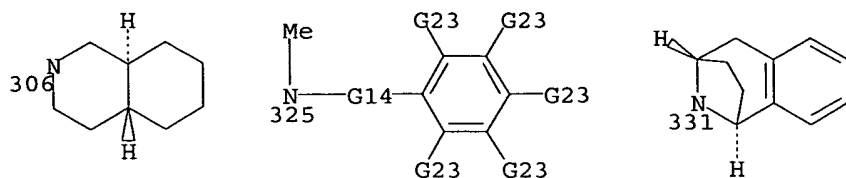




G12 = alkylthio <containing 1-6 C> /  
cycloalkyl <containing 3-7 C> / OH

G13 = alkoxy <containing 1-6 C> /  
alkylamino <containing 1-6 C> /  
dialkylamino <each alkyl containing 1-6 C> / 141 / 147 /  
azetidino / 167 / 187 / 191 / 200 / 203 / 209 / 215 / 232 /  
240 / 258 / 268 / 277 / 288 / 303 / 306 / 325 /  
hexahydroazepino / 331 / 347 / 365

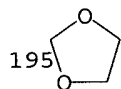




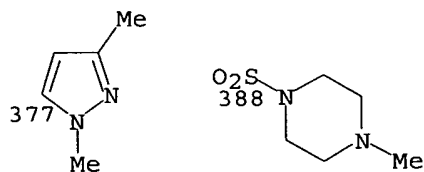
G14 = (1-2) CH<sub>2</sub>  
 G15 = 3 or more H / F / Cl / Br / I /  
 alkyl <containing 1-6 C> / 157

G14-OH  
 157

G16 = 195 / 2-furyl



G17 = 1 or more H / CH<sub>2</sub>OMe  
 G18 = 3 or more H / F / Cl / Br / I /  
 alkoxy <containing 1-6 C>  
 G19 = CH<sub>2</sub> / O  
 G20 = H / F / Cl / Br / I  
 G21 = phenylene  
 G22 = CH<sub>2</sub> / SO<sub>2</sub> / C(O)  
 G23 = 3 or more H / alkyl <containing 1-6 C> /  
 alkyl <containing 1-6 C> / NH<sub>2</sub>  
 G24 = 3 or more H / alkyl <containing 1-6 C> /  
 alkyl <containing 1-6 C> / NH<sub>2</sub>  
 G25 = H / alkyl <containing 1-6 C> /  
 alkoxy <containing 1-6 C> / cycloalkyl <containing 3-7 C> /  
 F / Cl / Br / I / OH / NH<sub>2</sub> / NO<sub>2</sub> / CH<sub>2</sub>CN / OCH<sub>2</sub>Ph / 377 /  
 pyrazinyl / 2-pyridyl / 5-pyrimidinyl / 388



G26 = 372 / C(O)

HC—G25  
372

G27 = H / alkyl <containing 1-6 C> /  
(Specifically claimed: Me)  
G28 = 1 or more H / CN / OH / CONH2 / 479

H<sub>2</sub>C—NH—C(O)—CH<sub>2</sub>—G29  
479

G29 = 2-thienyl / 484

p-C<sub>6</sub>H<sub>4</sub>G20  
484

G31 = H / alkyl <containing 1-6 C> / CH<sub>2</sub>CH<sub>2</sub>OH / 487

H<sub>2</sub>C—CH<sub>2</sub>—CN  
487

Patent location: claim 1  
Note: and pharmaceutically suitable acid addition salts  
Note: also incorporates claim 16  
Note: substitution is restricted

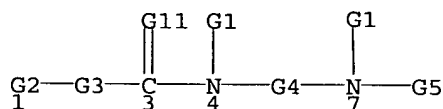
L71 ANSWER 41 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 141:156930 MARPAT  
TITLE: Preparation of diamides and their use as factor Xa  
inhibitors and blood coagulation inhibitors for oral  
treatment of thrombotic diseases  
INVENTOR(S): Kanno, Hideyuki; Yoshino, Toshiharu; Nagata, Tsutomu;  
Mochizuki, Akiyoshi  
PATENT ASSIGNEE(S): Daiichi Seiyaku Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 227 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004210716	A2	20040729	JP 2002-382164	20021227
PRIORITY APPLN. INFO.:			JP 2002-382164	20021227

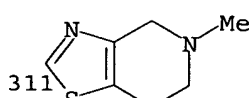
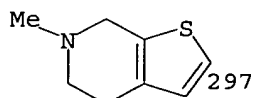
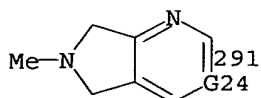
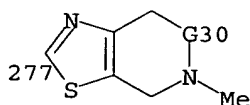
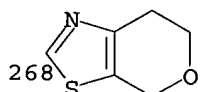
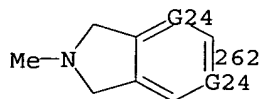
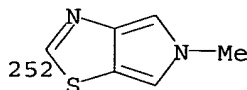
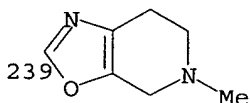
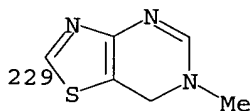
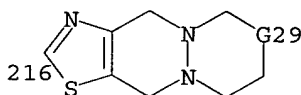
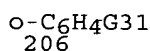
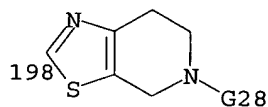
AB Q1Q2X1Q3X2Q4 [Q1 = (un)substituted (un)saturated 5- to 6-membered cyclic hydrocarbyl, (un)substituted (un)saturated 5- to 7-membered heterocyclyl, etc.; Q2 = bond, linear or branched C1-6 alkylene, linear or branched C2-6 alkenylene, (un)substituted (un)saturated 5- to 6-membered cyclic hydrocarbylene, etc.; Q3 = Q, CR3aR3bCR4aR4b; Q5 = (heteroatom-containing) alkylene, C2-8 alkenylene; R3, R4, R3a, R3b, R4a, R4b = H, alkyl, alkenyl, halo, cyano, NH2, (un)substituted 3- to 6-membered heterocyclylcarbonyl, aryl, etc.; Q4 = (un)substituted aryl(alkenyl), (un)substituted heteroaryl(alkenyl), etc.; X1 = T0NR1; X2 = T1NR2; T0 = (thio)carbonyl; T1 = CO, SO2, COCONR', etc.; R1, R2, R' = H, OH, alkyl, alkoxy], their salts,

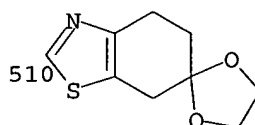
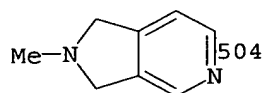
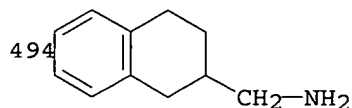
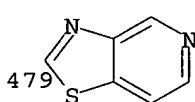
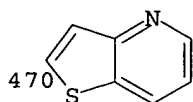
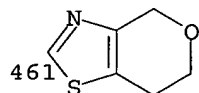
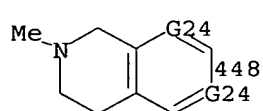
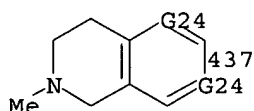
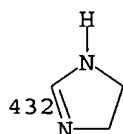
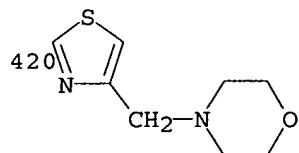
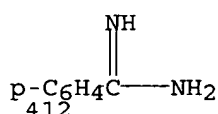
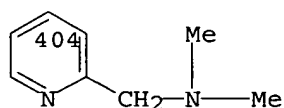
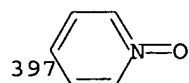
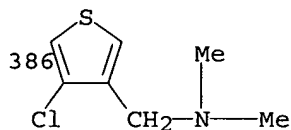
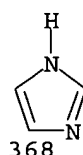
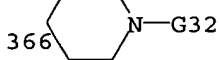
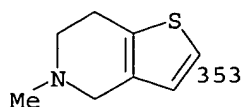
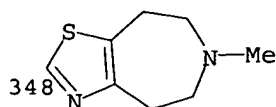
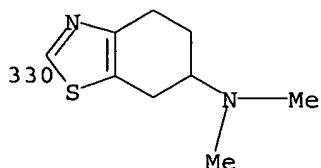
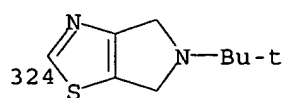
solvates, or N-oxides, useful or prophylactic and therapeutic treatment of cerebral infarction, angina pectoris, etc., are prepared. Thus, Boc- $\beta$ -alanine was amidated with 2-amino-5-chloropyridine, deprotected, condensed with 2-(tert-butylaminosulfonyl)-1,1'-biphenyl-4'-carboxylic acid, and deprotected to give 2-H<sub>2</sub>NSO<sub>2</sub>C<sub>6</sub>H<sub>4</sub>-4-C<sub>6</sub>H<sub>4</sub>CONH(CH<sub>2</sub>)<sub>2</sub>CONHZ (Z = 5-chloro-2-pyridinyl), which inhibited human FXa with IC<sub>50</sub> of 31 nM.

## MSTR 1



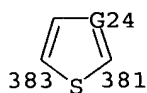
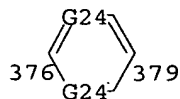
- G1 = H / OH / alkyl <containing 1-6 C> /  
cycloalkyl <containing 3-6 C> / alkoxy <containing 1-6 C> /  
cycloalkyloxy <containing 3-6 C>
- G2 = carbocycle <containing 5-6 C,  
5- to 6-membered monocyclic ring> (opt. substd.) /  
heterocycle <containing 5-7 atoms, 1 or more heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms),  
5- to 7-membered monocyclic ring> (opt. substd.) /  
carbocycle <2-3 rings> (opt. substd.) /  
heterocycle <2-3 rings> (opt. substd.) /  
(Specifically claimed: 198 / 206 / 216 / 229 / 239 / 252 /  
262 / 268 / 277 / 291 / 297 / 311 / 324 / 330 / 348 / 353 /  
366 / 368 / 386 / 397 / 404 / 412 / 420 / 432 / 437 / 448 /  
461 / 470 / 479 / 494 / 4-pyridyl / 504 / 510)





G3 = bond / carbocycle <containing 5-6 C,  
5- to 6-membered monocyclic ring> (opt. substd.) /  
heterocycle <containing 5-7 atoms, 1 or more heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms),  
5- to 7-membered monocyclic ring> (opt. substd.) /  
carbocycle <2-3 rings> (opt. substd.) /  
heterocycle <2-3 rings> (opt. substd.) /  
alkylene <containing 1-6 C> / alkenylene <containing 2-6 C> /

alkynylene <containing 2-6 C> / (Examples: 376-1 379-3 /  
383-1 381-3 / CH<sub>2</sub>CH<sub>2</sub> / CH=CH)



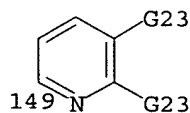
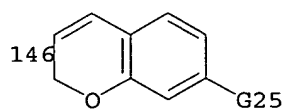
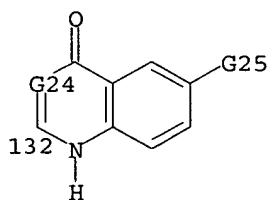
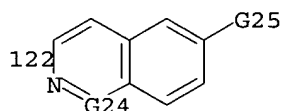
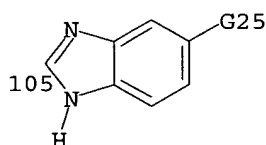
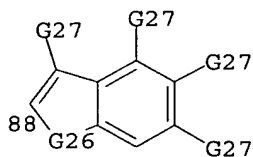
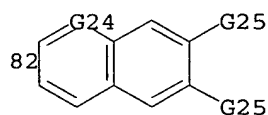
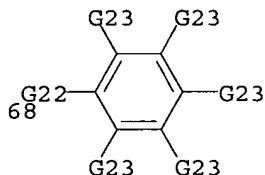
G4 = 5-4 6-7 / 52-4 53-7

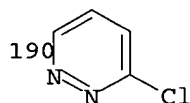
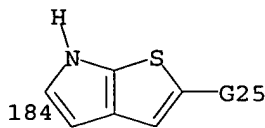
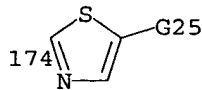
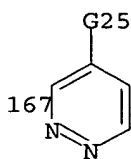
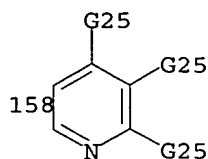
G19-G10      G20-G21  
5      6      52      53

G5 = aryl <containing 6-14 C> (opt. substd.) / 9 /  
heteroaryl <containing 1 or more heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.) / 11 /  
any ring <2-3 rings> (opt. substd.) /  
(Specifically claimed: 68 / 82 / 88 / 105 / 122 / 132 / 146  
/  
149 / 158 / 167 / 174 / 184) / (Examples: 190) /  
naphthyl (opt. substd.) / naphthyl (opt. substd.) /  
naphthyl (opt. substd.) / naphthyl (opt. substd.) /  
naphthyl (opt. substd.) / naphthyl (opt. substd.) /  
naphthyl (opt. substd.) / naphthyl (opt. substd.) /  
naphthyl (opt. substd.) / naphthyl (opt. substd.) /  
naphthyl (opt. substd.) / naphthyl (SO)

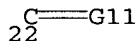
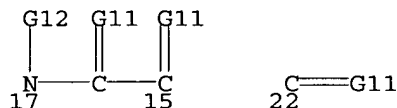
G6-G7  
9

G8-G9  
11

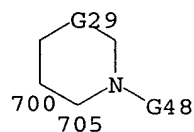
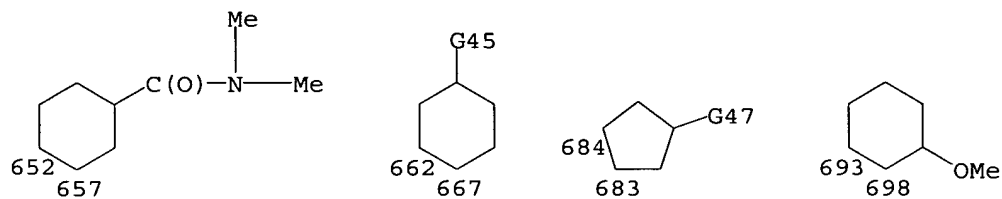
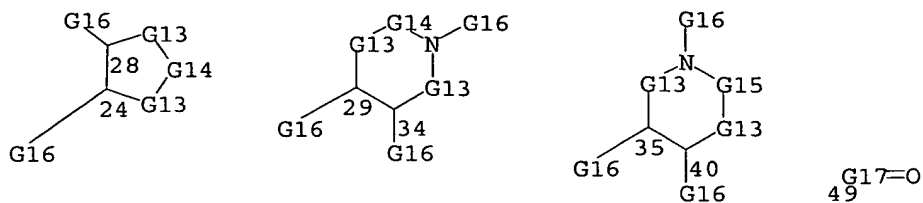




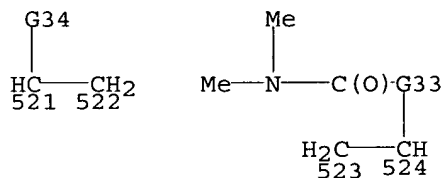
- G6 = alkenylene <containing 2-6 C> (opt. substd.) /  
alkynylene <containing 2-6 C> (opt. substd.)  
G7 = aryl <containing 6-14 C> (opt. substd.)  
G8 = alkylene <containing 1-6 C> (opt. substd.)  
G9 = heteroaryl <containing 1 or more heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.)  
G10 = 22 / SO2 / 17-5 15-7



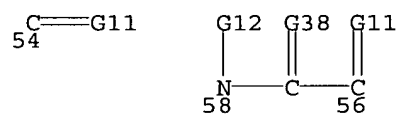
- G11 = O / S  
G12 = H / OH / alkyl <containing 1-6 C> /  
cycloalkyl <containing 3-6 C> / alkoxy <containing 1-6 C> /  
cycloalkyloxy <containing 3-6 C>  
G13 = (1-4) CH2  
G14 = O / NH (opt. substd.) / S / S(O) / SO2  
G15 = O / S / S(O) / SO2  
G16 = H / R  
G17 = heterocycle <containing 2 heteroatoms, 2 O, 4-11 C,  
non-aromatic, 0 or more double bonds, no triple bonds,  
bicyclic>  
G19 = carbocycle <containing 3-10 C,  
attached through 2 or more C, non-aromatic,  
0 or more double bonds, no triple bonds> (opt. substd.) /  
carbocycle <containing 4-15 C, non-aromatic,  
0 or more double bonds, no triple bonds, bicyclic> /  
heterocycle <containing 2 heteroatoms, 2 O, 4-15 C,  
non-aromatic, 0 or more double bonds, no triple bonds,  
bicyclic> / 49 / 28-4 24-6 / 29-4 34-6 / 35-4 40-6 /  
(Examples: 652-4 657-6 / 662-4 667-6 / 684-4 683-6 /  
693-4 698-6 / 700-4 705-6 )



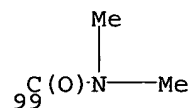
G20 = CH<sub>2</sub>CH<sub>2</sub> (opt. substd.) / (Examples: 521-4 522-53 / 523-4 524-53 )



G21 = 54 / SO<sub>2</sub> / 58-52 56-7

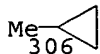
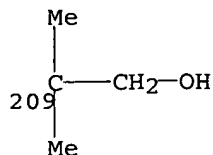
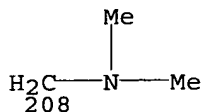


G22 = CH=CH / ethynylene / bond  
 G23 = H / Cl / F / Br / ethynyl / Me /  
 (Examples: C(NH)NH<sub>2</sub> / NH<sub>2</sub>)  
 G24 = N / CH  
 G25 = H / Cl / F / Br / ethynyl  
 G26 = NH / S / O  
 G27 = H / Cl / F / Br / ethynyl / Me / CHO / 99

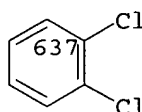
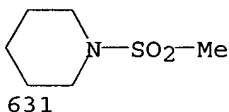
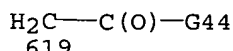
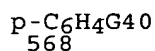
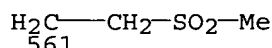
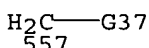
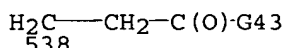
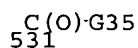
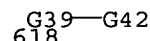
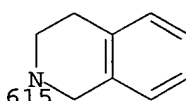
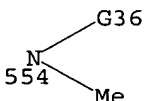
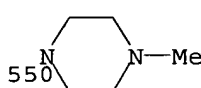
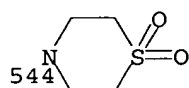




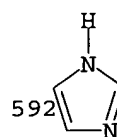
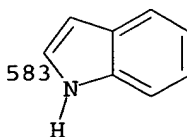
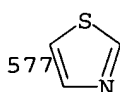
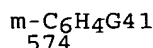
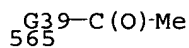
G28 = Me / 209 / Pr-i / Bu-t / 306

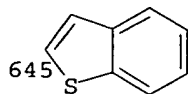
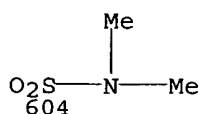
G29 = (0-1) CH<sub>2</sub>G30 = bond / CH<sub>2</sub>CH<sub>2</sub> / NHG31 = SO<sub>2</sub>NH<sub>2</sub> / 208

G32 = Pr-i / H

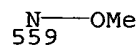
G33 = (0-2) CH<sub>2</sub>G34 = 531 / 538 / 619 / Bu-i / 557 / 561 / 568 /  
3-pyridyl / 2-tetrahydrofuryl / 2-naphthyl / Bu-n /  
CH<sub>2</sub>CH=CH<sub>2</sub> / CF<sub>3</sub> / 631 / 637G35 = NMe<sub>2</sub> / pyrrolidino / piperidino / morpholino /  
thiomorpholino / 550 / 544 / 554 / 615 / 618 / NH<sub>2</sub>

G36 = OH / OMe

G37 = OMe / OH / NMe<sub>2</sub> / SMe / S(O)Me / SO<sub>2</sub>Me / 565 / 574 /  
577 / 583 / 592 / 597 / 601 / 604 / 2-pyridyl / 645

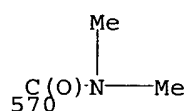
p-C<sub>6</sub>H<sub>4</sub>OH  
597

G38 = O / S / (Example: 559)



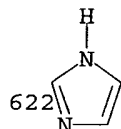
G39 = NMe / NH

G40 = H / 570

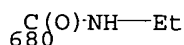
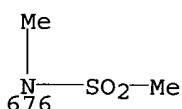
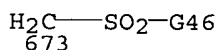
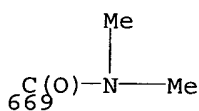
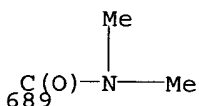


G41 = H / F

G42 = Me / 2-thiazolyl / 622 / Ph / Et

G43 = NMe<sub>2</sub> / NHMeG44 = NMe<sub>2</sub> / pyrrolidino / NHMe / NH<sub>2</sub> / NH<sub>2</sub>

G45 = 669 / 673 / 676 / 680

G46 = Me / NMe<sub>2</sub>G47 = 689 / OH / CH<sub>2</sub>OHG48 = COMe / CO<sub>2</sub>Et / Me

Patent location:

Note:

Note:

Note:

claim 1

or salts, solvates or N-oxides

substitution is restricted

additional ring formation also claimed

L71 ANSWER 42 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 141:89097 MARPAT

TITLE: Preparation of arylindenopyridines and arylindenopyrimidines as adenosine A2a receptor antagonists

INVENTOR(S): Heintzelman, Geoffrey R.; Bullington, James Lawrence; Rupert, Kenneth C.

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 23 pp., Cont.-in-part of U.S. Ser. No. 259,139.  
CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

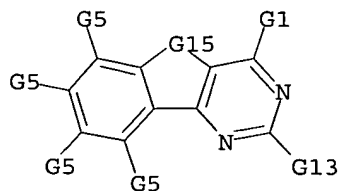
FAMILY ACC. NUM. COUNT: 5

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004127510	A1	20040701	US 2003-678562	20031003
US 2003212089	A1	20031113	US 2002-123389	20020416
US 6958328	B2	20051025		
US 2004082578	A1	20040429	US 2002-259139	20020927
US 6903109	B2	20050607		
US 2005239812	A1	20051027	US 2005-169549	20050629
US 2005239810	A1	20051027	US 2005-170044	20050629
US 2005267142	A1	20051201	US 2005-169554	20050629
US 2005267138	A1	20051201	US 2005-170484	20050629
US 2005267139	A1	20051201	US 2005-170569	20050629
PRIORITY APPLN. INFO.:			US 2002-123389	20020416
			US 2002-259139	20020927
			US 2001-284465P	20010418
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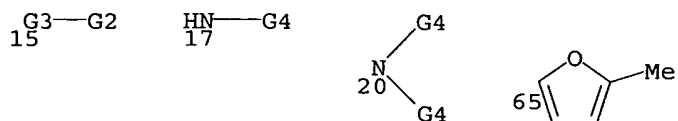
AB The title compds. [I or II; R1 = COR5 (wherein R5 = H, alkyl, aryl, arylalkyl), CO2R5, CN, etc.; R2 = alkyl, aryl, heteroaryl, etc.; R3 = H, halo, alkyl, etc.; R4 = H, alkyl, CH2Ph, etc.; X = CS, CO, CH2, (un)substituted CHOH], useful for treating disorders ameliorated by antagonizing adenosine A2a receptors (biol. data given), were prepared. Syntheses of compds. I are described in 19 synthetic examples. E.g., a 2-step synthesis of III, was given. This invention also provides therapeutic and prophylactic methods using the instant compds. and pharmaceutical compns.

# MSTR 1

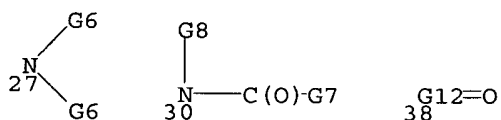


G1 = alkyl <containing 1-20 C> (opt. substd.) / aryl (opt. substd.) / heteroaryl <containing up to 10 atoms, up to 3 heteroatoms, zero or more S, zero or more O, zero or more N (no other heteroatoms)> (opt. substd.) / heterocycle <containing zero or more N, zero or more O, zero or more S (no other heteroatoms)> (opt. substd.) / cycloalkyl <containing 3-7 C> (opt. substd.) / 15 / NH2 / 17 / 20 / heterocycle <containing 1 or more N,

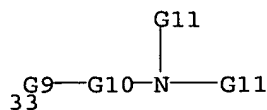
attached through 1 or more N> (opt. substd.) /  
 (Specifically claimed: 2-furyl / Ph / 2-thienyl / 65) /  
 (Example: furyl (opt. substd.))



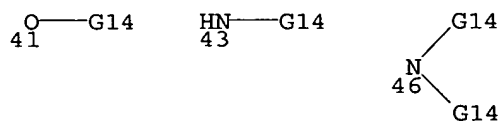
- G2 = alkyl <containing 1-8 C> (opt. substd.) /  
 aryl (opt. substd.)
- G3 = O / SO<sub>2</sub> / S
- G4 = alkyl <containing 1-8 C> / aralkyl (opt. substd.) /  
 cycloalkyl <containing 3-7 C> / alkyl (substd. by CO<sub>2</sub>H) /  
 aryl (opt. substd.) / heteroaryl <containing up to 10 atoms,  
 up to 3 heteroatoms, zero or more S, zero or more O,  
 zero or more N (no other heteroatoms)> (opt. substd.) /  
 heterocycle <containing zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.)
- G5 = H / F / Cl / Br / I / alkyl <containing 1-8 C> /  
 aralkyl (opt. substd.) / cycloalkyl <containing 3-7 C> /  
 alkoxy <containing 1-8 C> / CN /  
 alkoxycarbonyl <containing 1-4 C> / CF<sub>3</sub> /  
 alkylsulfonyl <containing 1-8 C> / NO<sub>2</sub> / OH / OCF<sub>3</sub> /  
 alkylcarbonyloxy <containing 1-8 C> / aryl (opt. substd.) /  
 heteroaryl <containing up to 10 atoms, up to 3 heteroatoms,  
 zero or more S, zero or more O,  
 zero or more N (no other heteroatoms)> (opt. substd.) /  
 heterocycle <containing zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.) / 27 /  
 heterocycle <containing 1 or more N,  
 attached through 1 or more N> (opt. substd.) / 30 / 38 /  
 (Examples: alkyl <containing 1-20 C> (substd. by OH) /  
 alkyl <containing 1-20 C> (substd. by NH<sub>2</sub>))



- G6 = H / alkyl <containing 1-8 C> /  
 aralkyl (opt. substd.) / cycloalkyl <containing 3-7 C> /  
 alkyl (substd. by CO<sub>2</sub>H) / aryl (opt. substd.) /  
 heteroaryl <containing up to 10 atoms, up to 3 heteroatoms,  
 zero or more S, zero or more O,  
 zero or more N (no other heteroatoms)> (opt. substd.) /  
 heterocycle <containing zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.)
- G7 = H / alkyl <containing 1-20 C> (opt. substd.) /  
 alkoxy <containing 1-3 C> / alkyl <containing 1-20 C>  
 (substd. by CO<sub>2</sub>H) / aryl (opt. substd.) /  
 aralkyl (opt. substd.) / heteroaryl <containing up to 10  
 atoms, up to 3 heteroatoms, zero or more S, zero or more O,  
 zero or more N (no other heteroatoms)> (opt. substd.) /  
 heterocycle <containing zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.) / 33



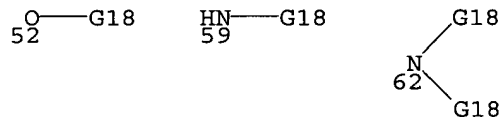
G8 = H / alkyl <containing 1-20 C>  
 G9 = (1-9) CH2  
 G10 = bond / C(O)  
 G11 = H / OH / alkyl <containing 1-20 C> (opt. substd.) /  
 alkoxy <containing 1-20 C>  
 G12 = heterocycle <containing 1 or more N,  
 attached through 1 or more N>  
 G13 = H / alkyl <containing 1-6 C> (opt. substd.) /  
 CH2Ph (opt. substd.) / OH / 41 / NH2 / 43 / 46



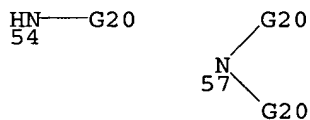
G14 = alkyl <containing 1-6 C> (opt. substd.) /  
 aryl (opt. substd.)  
 G15 = 48 / 50



G16 = S / O  
 G17 = H / OH / 52 / NH2 / 59 / 62



G18 = alkyl <containing 1-8 C> (opt. substd. by G19)  
 G19 = alkoxy <containing 1-8 C> / OH / F / Cl / Br / I /  
 NH2 / CN / NH2 / 54 / 57 / heterocycle <containing 1 or more  
 N, attached through 1 or more N>



G20 = alkyl <containing 1-8 C> /  
 cycloalkyl <containing 3-7 C> / CH2Ph / aryl (opt. substd.) /  
 heteroaryl <containing up to 10 atoms, up to 3 heteroatoms,  
 zero or more S, zero or more O,  
 zero or more N (no other heteroatoms)> (opt. substd.)

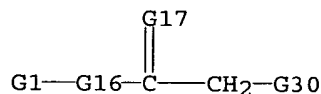
Patent location: claim 1  
 Note: additional ring oxidation and quaternization also  
 claimed  
 Note: or pharmaceutically acceptable salts

L71 ANSWER 43 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 141:12274 MARPAT  
 TITLE: Carboxylic acid derivatives inhibition of the binding  
 of integrins to their receptors  
 INVENTOR(S): Vanderslice, Peter; Holland, George; Shih, Neng-Yang;  
 Aslanian, Robert G.; Chapman, Richard W.; Kreutner,  
 William  
 PATENT ASSIGNEE(S): Encysive Pharmaceuticals, USA; Schering Corporation  
 SOURCE: PCT Int. Appl., 52 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004044046	A2	20040527	WO 2003-US35526	20031107
WO 2004044046	A3	20040930		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2513493	AA	20040527	CA 2003-2513493	20031107
AU 2003291362	A1	20040603	AU 2003-291362	20031107
EP 1567505	A2	20050831	EP 2003-768755	20031107
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
BR 2003016104	A	20050927	BR 2003-16104	20031107
CN 1735601	A	20060215	CN 2003-80108192	20031107
NO 2005002753	A	20050808	NO 2005-2753	20050607
PRIORITY APPLN. INFO.:			US 2002-424928P	20021108
			WO 2003-US35526	20031107

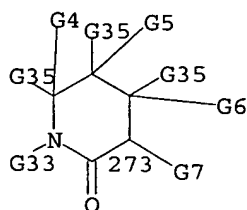
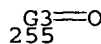
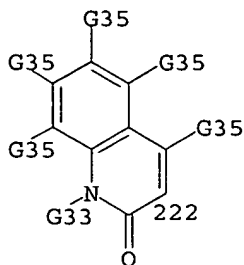
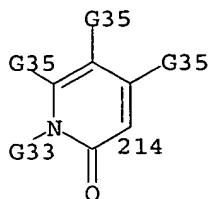
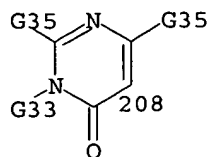
AB A composition, method and kit comprise a compound for the inhibition of the binding of  $\alpha 4\beta 1$  integrin to its receptors, e.g., VCAM-1 and fibronectin and other therapeutic compds. for the control or prevention of diseases states in which  $\alpha 4\beta 1$  is involved.

## MSTR 1B

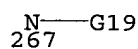


G1 = carbocycle <containing 4 or more C,  
 0 or more double bonds> (opt. substd.) /  
 heterocycle <containing 4 or more atoms, zero or more N,  
 zero or more O, zero or more S, 0 or more double bonds>  
 (opt. substd.) / 255 / (Specifically claimed: 208 / 214 /

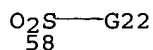
222 / 273)



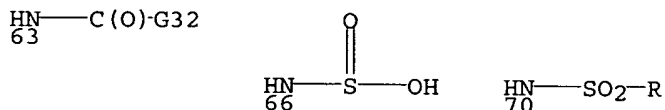
- G2 = H / R / aryl <containing 6-12 C> (opt. substd. by G12) / heteroaryl <containing zero or more O, zero or more S, zero or more N> (opt. substd. by G12) / alkyl <containing 1-12 C> (substd. by 1 or more G11) / heterocycle <containing 3-10 atoms, zero or more O, zero or more S, zero or more N> (opt. substd. by G12) / alkyl <containing 1-12 C> (substd. by G27) / (Specifically claimed: Ph (opt. substd.))
- G3 = carbocycle <containing 4 or more C, 0 or more double bonds> (opt. substd.) / heterocycle <containing 4 or more atoms, zero or more N, zero or more O, zero or more S, 0 or more double bonds> (opt. substd.)
- G4 = H
- G5 = H
- G6 = H
- G7 = H
- G11 = aryl <containing 6-12 C> (opt. substd.) / heteroaryl <containing zero or more O, zero or more S, zero or more N> (opt. substd.)
- G12 = R / alkyl <containing 1-12 C> (opt. substd.)
- G16 = O / S / NH / 267



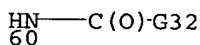
- G17 = O / S / NH (opt. substd.)
- G19 = R / alkyl <containing 1-12 C> (opt. substd. by 1 or more G24)
- G20 = PO3H2 / 58 / OPO3H2 / tetrazolyl / OH / H



G21 = OH (opt. substd.) / 63 / 66 / 70 /  
 (Specifically claimed: alkoxy <containing 1-12 C>  
 (substd. by 1 or more G11))



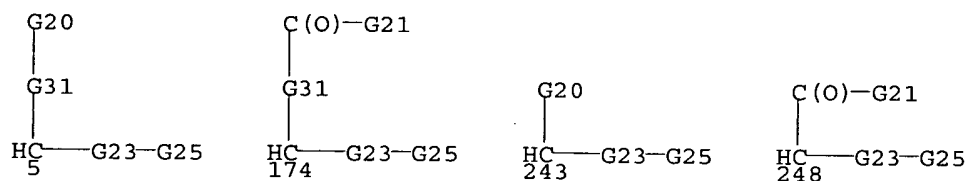
G22 = OH / NH<sub>2</sub> / 60



G23 = C(O) / **bond** / alkylene <containing 1-3 C,  
 unbranched>  
 G24 = R / aryl <containing 6-12 C> (opt. substd.) /  
 heteroaryl <containing zero or more O, zero or more S,  
 zero or more N> (opt. substd.)  
 G25 = H / R / aryl <containing 6-12 C>  
 (opt. substd. by G12) / heteroaryl <containing zero or more  
 O, zero or more S, zero or more N> (opt. substd. by G12) /  
 alkyl <containing 1-12 C> (substd. by 1 or more G11) /  
 heterocycle <containing 3-10 atoms, zero or more O,  
 zero or more S, zero or more N> (opt. substd. by G12) /  
 alkyl <containing 1-12 C> (substd. by G27) / 73 / 77 /  
 (Specifically claimed: Ph (opt. substd.))



G26 = O / S / **NH** (opt. substd.)  
 G27 = heterocycle <containing 3-10 atoms, zero or more O,  
 zero or more S, zero or more N> (opt. substd.)  
 G30 = 5 / 174 / **243** / 248



G31 = carbon chain <containing 1 or more C,  
 0 or more double bonds, 0 or more triple bonds>  
 (opt. substd. by G24)  
 G32 = H / R  
 G33 = H / R / alkyl <containing 1-12 C>  
 (substd. by 1 or more G11)  
 G35 = H / R / alkyl <containing 1-12 C>  
 (substd. by 1 or more G11) / alkoxy <containing 1-12 C>  
 (substd. by 1 or more G11)

G4 +G5 = bond

G5 +G6 = bond

Patent location: claim 1



Note: additional ring formation also claimed  
 Note: or pharmaceutically acceptable salts  
 Note: substitution is restricted

L71 ANSWER 44 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 140:386067 MARPAT  
 TITLE: Histone deacetylase (HDAC) inhibitors for the  
 treatment of ocular neovascular or edematous disorders  
 and diseases  
 INVENTOR(S): Klimko, Peter G.; Bingaman, David P.  
 PATENT ASSIGNEE(S): Alcon, Inc., Switz.  
 SOURCE: U.S. Pat. Appl. Publ., 8 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004092558	A1	20040513	US 2003-697135	20031030
CA 2504460	AA	20040527	CA 2003-2504460	20031030
WO 2004043352	A2	20040527	WO 2003-US34617	20031030
WO 2004043352	A3	20040715		
WO 2004043352	C1	20050630		
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RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
AU 2003287349	A1	20040603	AU 2003-287349	20031030
EP 1560583	A2	20050810	EP 2003-781581	20031030
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
BR 2003016206	A	20050927	BR 2003-16206	20031030
CN 1711087	A	20051221	CN 2003-80103003	20031030
JP 2006512318	T2	20060413	JP 2004-551638	20031030
US 2006074100	A1	20060406	US 2005-531754	20050418
PRIORITY APPLN. INFO.:			US 2002-425574P	20021112
			WO 2003-US34617	20031030
AB The invention discloses ophthalmic compns. containing HDAC inhibitors and their use for treating ocular neovascular or edematous diseases and disorders.				

MSTR 1

G16--NH--OH

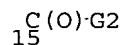
G1 = 9 / 12

G2--NH--C(O) G2--C(O)--G7  
 9 12

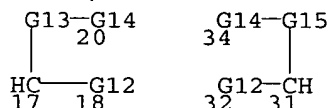
- G2 = aryl (opt. substd. by 1 or more G3) /  
heteroaryl <containing zero or more N, zero or more O,  
zero or more S> (opt. substd. by 1 or more G3) /  
carbocycle <non-aromatic> (opt. substd. by 1 or more G4) /  
heterocycle <containing zero or more N, zero or more O,  
zero or more S, non-aromatic> (opt. substd. by 1 or more G5)  
/ aryloxy (opt. substd. by 1 or more G3) /  
alkoxy <containing 1-15 C> (substd. by 1 or more G6) /  
alkyl <containing 1-15 C> (opt. substd. by 1 or more G10)
- G3 = R / (Examples: loweralkyl / OH / NH<sub>2</sub> / F / Cl / Br /  
I)
- G4 = R / (Examples: F / Cl / Br / I / NH<sub>2</sub> / OH / alkoxy /  
loweralkyl)
- G5 = R / (Examples: loweralkyl / acyl / NH<sub>2</sub> / OH / F /  
Cl / Br / I)
- G6 = aryl (opt. substd. by 1 or more G3)
- G7 = NH / 14



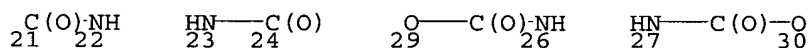
- G8 = alkyl <containing 1-15 C>  
(opt. substd. by 1 or more G10) / 15



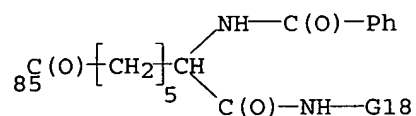
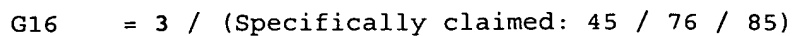
- G9 = G11 / 17-1 18-3 / 32-1 31-3



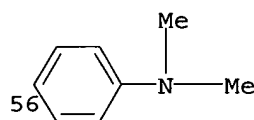
- G10 = R / (Examples: F / Cl / Br / I / OH /  
alkoxy <containing 1-15 C>)
- G11 = alkylene <containing 3-8 C, unbranched>
- G12 = alkylene <containing 2-7 C, unbranched>
- G13 = NH / O / S / CH<sub>2</sub> / 21-17 22-20 / 23-17 24-20 /  
29-17 26-20 / 27-17 30-20



- G14 = aryl (opt. substd. by 1 or more G3) /  
**heteroaryl <containing zero or more N, zero or more O,  
zero or more S> (opt. substd. by 1 or more G3) /**  
carbocycle <non-aromatic> (opt. substd. by 1 or more G4) /  
heterocycle <containing zero or more N, zero or more O,  
zero or more S, non-aromatic> (opt. substd. by 1 or more G5)  
/ alkyl <containing 1-15 C> (opt. substd. by 1 or more G10)
- G15 = NH / O / S / CH<sub>2</sub> / 35-34 36-31 / 37-34 38-31 /  
41-34 40-31 / 42-34 44-31



G17 = Ph / 3-pyridyl / 56



G18 = Ph / naphthyl

Patent location: claim 2

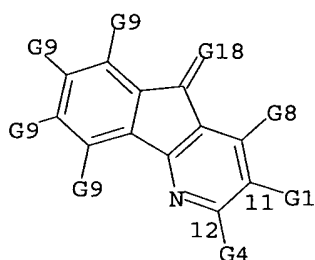
L71 ANSWER 45 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 140:375085 MARPAT  
TITLE: Preparation of arylindenopyridines as  
phosphodiesterase inhibitors and adenosine A2a  
receptor antagonists  
INVENTOR(S): Heintzelman, Geoffrey R.; Averill, Kristin M.; Dodd,  
John H.; Demarest, Keith T.; Tang, Yuting; Jackson,  
Paul F.  
PATENT ASSIGNEE(S): Ortho-Muniel Pharmaceutical, Inc., USA  
SOURCE: U.S. Pat. Appl. Publ., 136 pp., Cont.-in-part of U.S.  
Pat. Appl. 2003 212,089.  
CODEN: USXXCO  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 5  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004082578	A1	20040429	US 2002-259139	20020927
US 6903109	B2	20050607		
US 2003212089	A1	20031113	US 2002-123389	20020416
US 6958328	B2	20051025		
US 2004127510	A1	20040701	US 2003-678562	20031003
US 2006154949	A1	20060713	US 2005-42281	20050124
US 2005239782	A1	20051027	US 2005-148114	20050608

US 2005239812	A1	20051027	US 2005-169549	20050629
US 2005239810	A1	20051027	US 2005-170044	20050629
US 2005267142	A1	20051201	US 2005-169554	20050629
US 2005267138	A1	20051201	US 2005-170484	20050629
US 2005267139	A1	20051201	US 2005-170569	20050629
US 2006009481	A1	20060112	US 2005-196154	20050803
US 2005277637	A1	20051215	US 2005-197612	20050804
PRIORITY APPLN. INFO.:			US 2001-284465P	20010418
			US 2002-123389	20020416
			US 2002-259139	20020927
			US 2003-678562	20031003
			US 2005-42281	20050124

AB This invention provides novel arylindenopyridines (shown as I; variables defined below and/or in claims; e.g. 4-(3,5-dimethylphenyl)-2-methyl-5-oxo-5H-indeno[1,2-b]pyridine-3-carboxylic acid Me ester), and pharmaceutical compns. comprising same, useful for treating disorders ameliorated by antagonizing adenosine A2a receptors or by reducing phosphodiesterase (PDE) activity in appropriate cells. I are potent small mol. phosphodiesterase inhibitors that have demonstrated potency for inhibition of PDE7, PDE5, and PDE4; some I are potent small mol. PDE7 inhibitors that have also demonstrated good selectivity against PDE5 and PDE4; data are provided for about 30 I. I are also antagonists of the adenosine A2a receptors that have demonstrated potency for the antagonism of adenosine A2a, A1, and A3 receptors; data are provided for about 45 I. This invention also provides therapeutic and prophylactic methods using the instant pharmaceutical compns. Although the methods of preparation are not claimed, 23 example preps. of intermediates and I are included; mass spectral data are tabulated for 284 examples of I. In I: R1 = COR5, COOR6, CN, a lactone or lactam formed with R4, CONR7R8; R2 = (un)substituted alkyl, aryl, heteroaryl, heterocyclyl, cycloalkyl; R3 = H, halo, alkyl, arylalkyl, cycloalkyl, alkoxy, CN, carboalkoxy, CF3, alkylsulfonyl, NO2, OH, OCF3, carboxylate, aryl, heteroaryl, heterocyclyl; NR10R11; NR12COR13; R4 = H, alkyl, benzyl, NR13R14; X = S, O; R5, R6 = H, alkyl, aryl, arylalkyl; R7, R8 = H, alkyl, cycloalkyl, etc.; R10, R11 = H, alkyl, arylalkyl, etc.; R12, R14 = H, alkyl; R13 = H, alkyl, alkoxy, etc.

## MSTR 1



G1 = 15 / CO2H / 17 / CN / 25

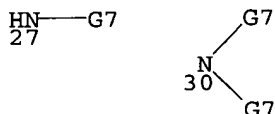
$\overset{\text{C(O)}}{\underset{15}{\text{G2}}}$      $\overset{\text{C(O)}}{\underset{17}{\text{O}}}-\text{G3}$      $\overset{\text{C(O)}}{\underset{25}{\text{G6}}}$

G2 = alkyl <containing 1-8 C> (opt. substd.) /  
aryl (opt. substd.) / aralkyl (opt. substd.)

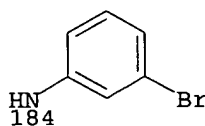
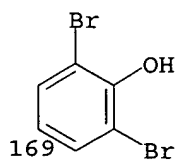
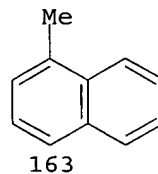
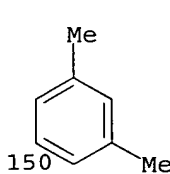
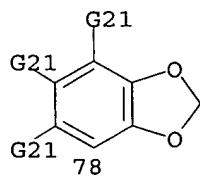
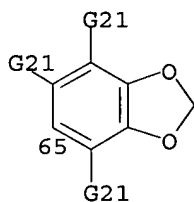
G3 = alkyl <containing 1-8 C>  
(opt. substd. by 1 or more G19) / aryl (opt. substd.) /

aralkyl (opt. substd.) / R / heteroaryl <containing 5-10 atoms, 1-3 heteroatoms, zero or more S, zero or more O, zero or more N (no other heteroatoms)> (opt. substd.) / (Specifically claimed: Me / Et)

- G4 = H / alkyl <containing 1-3 C> (opt. substd.) / CH<sub>2</sub>Ph (opt. substd.) / NH<sub>2</sub> / alkylamino <containing 1-6 C> (opt. substd.) / dialkylamino <each alkyl containing 1-6 C> (opt. substd.) / (Specifically claimed: Me)
- G5 = O / NH
- G6 = NH<sub>2</sub> / 27 / 30 / heterocycle <containing 1 or more N, zero or more O, zero or more S (no other heteroatoms), attached through 1 or more N> (opt. substd.)

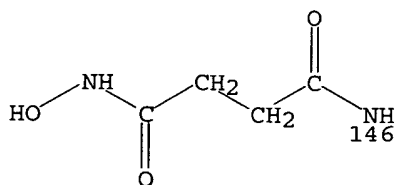
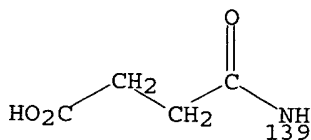
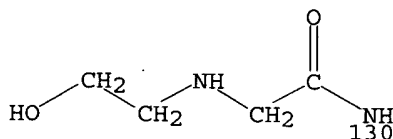
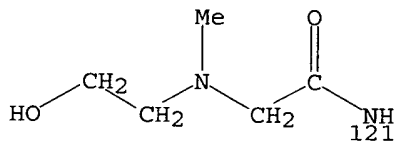
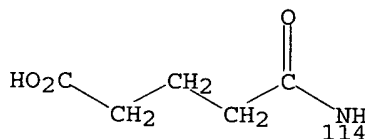
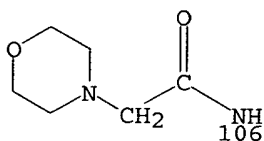
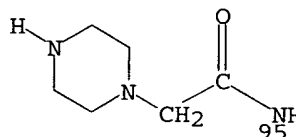
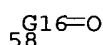
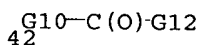
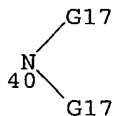


- G7 = alkyl <containing 1-8 C> (opt. substd.) / cycloalkyl <containing 3-7 C> (opt. substd.) / CF<sub>3</sub> / OH / alkoxy <containing 1-8 C> (opt. substd.) / alkylcarbonyl <containing 1-5 C> (opt. substd.) / alkylcarbonyl (opt. substd.) / CO<sub>2</sub>H / aralkyl (opt. substd.) / aryl (opt. substd.) / heteroaryl <containing 5-10 atoms, 1-3 heteroatoms, zero or more S, zero or more O, zero or more N (no other heteroatoms)> (opt. substd.) / heterocycle <containing zero or more N, zero or more O, zero or more S (no other heteroatoms)> (opt. substd.)
- G8 = alkyl (opt. substd.) / aryl (opt. substd.) / heteroaryl <containing 5-10 atoms, 1-3 heteroatoms, zero or more S, zero or more O, zero or more N (no other heteroatoms)> (opt. substd.) / heterocycle <containing zero or more N, zero or more O, zero or more S (no other heteroatoms)> (opt. substd.) / cycloalkyl <containing 3-7 C> (opt. substd.) / (Specifically claimed: furyl (opt. substd. by (1-3) G20) / Ph (opt. substd. by (1-3) G20) / naphthyl (opt. substd. by (1-3) G20) / 65 / 78 / 150 / 163 / 169 / m-C<sub>6</sub>H<sub>4</sub>Me / p-C<sub>6</sub>H<sub>4</sub>Me / 184)



G9 = 3 or more H / F / Cl / Br / I /  
 alkyl <containing 1-8 C> (opt. substd.) /  
 aralkyl (opt. substd.) / cycloalkyl <containing 3-7 C>  
 (opt. substd.) / alkoxy <containing 1-8 C> (opt. substd.) /  
 CN / alkoxycarbonyl <containing 1-4 C> (opt. substd.) / CF3 /  
 alkylsulfonyl <containing 1-8 C> (opt. substd.) / NO2 / OH /  
 OCF3 / alkylcarbonyloxy <containing 1-8 C> (opt. substd.) /  
 aryl (opt. substd.) / heteroaryl <containing 5-10 atoms,  
 1-3 heteroatoms, zero or more S, zero or more O,  
 zero or more N (no other heteroatoms)> (opt. substd.) /  
 heterocycle <containing zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.) / NH2 /  
 37 / 40 / heterocycle <containing 1 or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 attached through 1 or more N> (opt. substd.) / 42 / 58 /  
 (Specifically claimed: 95 / 106 / 114 / 121 / 130 / 139 /  
 146 / alkylcarbonylamino / NH2 / NO2 / NHCOMe)

HN—G17  
 37



G10 = NH / 45

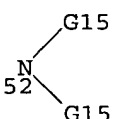
N—G11  
45

G11 = alkyl (opt. substd.)  
G12 = H / alkyl <containing 1-20 C> (opt. substd.) /  
alkoxy <containing 1-3 C> / alkyl (substd. by CO<sub>2</sub>H) / 47 /  
54 / aryl (opt. substd.) / aralkyl (opt. substd.) /  
heteroaryl <containing 5-10 atoms, 1-3 heteroatoms,  
zero or more S, zero or more O,  
zero or more N (no other heteroatoms)> (opt. substd.) /  
heterocycle <containing zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.) /  
cycloalkyl <containing 3-7 C> (opt. substd.)

G13—G14      G13—C(O)—G14  
47              54

G13 = (1-6) CH<sub>2</sub>  
G14 = NH<sub>2</sub> / 49 / 52

HN—G15  
49



G15 = OH / alkyl <containing 1-20 C> /  
alkoxy <containing 1-8 C>  
G16 = heterocycle <containing 1 or more N> (opt. substd.)  
G17 = alkyl <containing 1-8 C> (opt. substd.) /  
aralkyl (opt. substd.) / cycloalkyl <containing 3-7 C>  
(opt. substd.) / alkyl (substd. by CO<sub>2</sub>H) /  
aryl (opt. substd.) / heteroaryl <containing 5-10 atoms,  
1-3 heteroatoms, zero or more S, zero or more O,  
zero or more N (no other heteroatoms)> (opt. substd.) /  
heterocycle <containing zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.)  
G18 = S / O  
G19 = R / (Specifically claimed: CN / OH)  
G20 = F / Cl / Br / I / alkyl <containing 1-20 C>  
(opt. substd.) / OH / CN / NO<sub>2</sub>  
G21 = H / F / Cl / Br / I / alkyl <containing 1-20 C>  
(opt. substd.) / OH / CN / NO<sub>2</sub>  
G1 +G4 = 21-11 22-12 / 24-11 23-12

C(O):G5      G5—C(O)  
21 22      24 23

Patent location: claim 1  
Note: additional ring oxidation and quaternization also  
claimed  
Note: substitution is restricted  
Note: and pharmaceutically acceptable salts, esters, and  
prodrugs

REFERENCE COUNT: 85 THERE ARE 85 CITED REFERENCES AVAILABLE FOR THIS

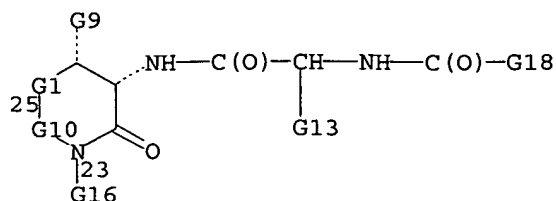
## RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 46 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 140:339634 MARPAT  
 TITLE: Preparation of peptidyl lactams for treatment of neurological disorders  
 INVENTOR(S): Becker, Christopher; Dembofsky, Bruce; Jacobs, Robert; Kang, James; Ohnmacht, Cyrus; Rosamond, James; Shenvi, Ashokkumar Bhikkappa; Simpson, Thomas; Woods, James  
 PATENT ASSIGNEE(S): Astrazeneca AB, Swed.  
 SOURCE: PCT Int. Appl., 188 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

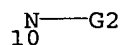
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004031154	A1	20040415	WO 2003-SE1534	20031002
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003265202	A1	20040423	AU 2003-265202	20031002
EP 1554250	A1	20050720	EP 2003-799234	20031002
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2006503862	T2	20060202	JP 2004-541383	20031002
US 2006089346	A1	20060427	US 2005-528640	20050322
PRIORITY APPLN. INFO.:				
			SE 2002-2929	20021003
			SE 2002-3829	20021219
			WO 2003-SE1534	20031002
AB The invention relates to lactams I [X is C, O, NR1, SO2 or S; Ar1 is an (un)substituted 5- or 6-membered aromatic or heterocyclic ring having 0-3 nitrogen, oxygen or sulfur atoms; R1 is H, alk(en)yl, cycloalkyl-, amino-, acyl- or phenylalkyl or cycloalkylalkynyl; R2, R3 are H, alkyl, cycloalkyl, aryl or heteroaryl or R2 and R3 form a fused Ph or cyclohexyl moiety; R4 is H, (un)substituted alkyl, cycloalkyl, heterocyclyl or aryl; R5 is (un)substituted phenylalkyl, 1-hydroxyalkyl, hydroxyphenylmethyl, etc.] or their pharmaceutically-acceptable salts used for the treatment of neurol. disorders, e.g., Alzheimer's disease, related to amyloid $\beta$ protein production. These compds. inhibit $\gamma$ secretase and thus inhibit the production of amyloid $\beta$ protein and prevent the formation of neurol. deposits of amyloid protein. Syntheses of lactams I are described in 117 examples. Thus, cis-3-amino-2-(2,5-difluorophenyl)-2,3-dihydro-1,5-benzothiazepin-4-(5R)one was prepared via cyclization of Me $\beta$ -[(2-aminophenyl)thio]-N-[(benzyloxy)carbonyl]-2,5-difluorophenylalaninate and underwent coupling with N-[(3,5-difluorophenyl)acetyl]-L-alanine to afford N2-[(3,5-difluorophenyl)acetyl]-N1-[(2R,3R)-2-(2,5-difluorophenyl)-4-oxo-2,3,4,5-tetrahydro-1,5-benzothiazepin-3-yl]-L-alaninamide.				

MSTR 1

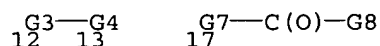




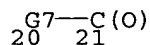
G1 = CH<sub>2</sub> / O / 10 / SO<sub>2</sub> / S



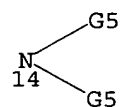
G2 = H / alkyl <containing 1-3 C> /  
 (substd. by cycloalkyl <containing 3-6 C>) /  
 alkyl <containing 1-6 C> / alkenyl <containing 3-6 C> /  
 alkynyl <containing 3-6 C> (substd. by cycloalkyl  
 <containing 3-6 C>) / 12 / 17 /  
 alkyl <containing 1-3 C> (opt. substd. by G20)



G3 = alkylene <containing 2-4 C> / 20-10 21-13

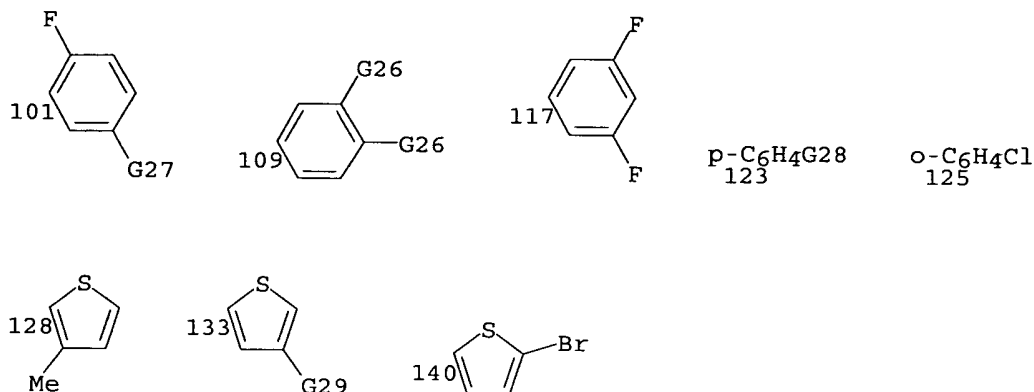


G4 = 14 / heterocycle <containing 5-6 atoms,  
 2 heteroatoms, 1 or more N, up to 1 O (no other heteroatoms)  
 , attached through 1-2 N, no OTHER,  
 5- to 6-membered monocyclic ring>  
 (opt. substd. by 1 or more G6) /  
 (Specifically claimed: morpholino / azetidino)

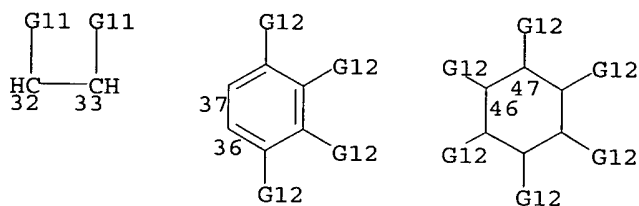


G5 = H / alkyl <containing 1-4 C> /  
 cycloalkyl <containing 3-6 C>  
 G6 = alkyl <containing 1-3 C> /  
 Ph (opt. substd. by (1-3) G22)  
 G7 = alkylene <containing 1-4 C>  
 G8 = alkyl <containing 1-3 C> / OH /  
 alkoxy <containing 1-3 C>  
 G9 = aryl <containing 6-14 C,  
 0 or more 5-membered rings only>  
 (opt. substd. by (1-3) G22) / heterocycle <containing 5 or  
 more atoms, 1 or more heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 5- or 6-membered rings only> (opt. substd. by (1-3) G22) /

(Specifically claimed: 101 / 109 / 123 / 117 / 1-naphthyl / 125 / 128 / 133 / 3-thienyl / 2-furyl / 3-furyl / 140)



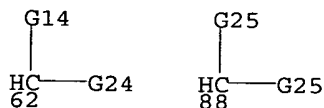
G10 = 32-25 33-23 / 37-25 36-23 / 46-25 47-23



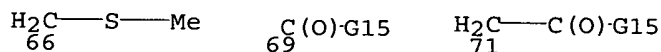
G11 = H / alkyl <containing 1-6 C> / cycloalkyl <containing 4-6 C> / aryl / heteroaryl / (Specifically claimed: Ph)

G12 = H / NO<sub>2</sub> / F / Cl / Br / I / CF<sub>3</sub> / CN / alkyl <containing 1-6 C> / alkoxy <containing 1-6 C>

G13 = H / 62 / 88 / aryl <containing 6-14 C, 0 or more 5-membered rings only> (opt. substd. by (1-2) G23) / heterocycle <containing 5 or more atoms, 1 or more heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), 5- or 6-membered rings only> (opt. substd. by (1-2) G23) / cycloalkyl <containing 5 or more C, 5- or 6-membered rings only> (opt. substd. by (1-2) G23)

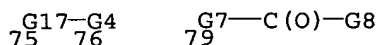


G14 = H / alkyl <containing 1-4 C> (opt. substd. by NH<sub>2</sub>) / OH / SH / 66 / 69 / 71 / CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>NHC(NH)NH<sub>2</sub> / alkylamino <containing 1-4 C> / indolyl / imidazolyl / Ph (opt. substd. by OH)

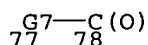


G15 = NH<sub>2</sub> / OH

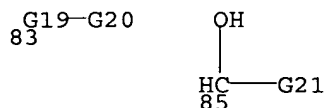
G16 = H / alkyl <containing 1-3 C>  
 (substd. by cycloalkyl <containing 3-6 C>) /  
 alkyl <containing 1-6 C> / alkenyl <containing 3-6 C> /  
 alkynyl <containing 3-6 C> (substd. by cycloalkyl  
 <containing 3-6 C>) / 75 / 79 /  
 alkyl <containing 1-3 C> (opt. substd. by G20) /  
 (Specifically claimed: propargyl)



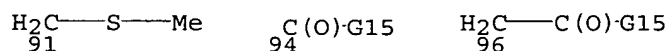
G17 = alkylene <containing 2-4 C> / 77-23 78-76



G18 = 83 / 85



G19 = alkylene <containing 1-3 C> / CHOH  
 G20 = Ph (opt. substd. by (1-3) G22)  
 G21 = alkyl <containing 1-3 C>  
 G22 = OH / F / Cl / Br / I / CN / NO2 / CF3 /  
 alkyl <containing 1-6 C> / alkoxy <containing 1-6 C>  
 G23 = NO2 / F / Cl / Br / I / CF3 / CN /  
 alkyl <containing 1-6 C> / alkoxy <containing 1-6 C>  
 G24 = H / OH / SH / **alkylamino <containing 1-4 C>** /  
 indolyl / imidazolyl / Ph (opt. substd. by OH)  
 G25 = alkyl <containing 1-4 C> (opt. substd. by NH2) /  
 91 / 94 / 96 / CH2CH2CH2NHC(NH)NH2



G26 = H / Cl  
 G27 = H / F  
 G28 = Me / OMe / F  
 G29 = Me / CO2Me / H / Br

Patent location: claim 1  
 Note: or pharmaceutically acceptable salts  
 Note: substitution is restricted

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 47 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 140:287277 MARPAT

TITLE: Preparation of carboxylic acid derivatives that  
 inhibit the binding of integrins to their receptors  
 INVENTOR(S): Biediger, Ronald J.; Chen, Qi; Decker, E. Radford;  
 Holland, George W.; Kassir, Jamal M.; Li, Wen; Market,  
 Robert V.; Scott, Ian L.; Wu, Chengde; Li, Jian

PATENT ASSIGNEE(S): Encysive Pharmaceuticals Inc., USA  
 SOURCE: U.S. Pat. Appl. Publ., 98 pp., Cont.-in-part of U.S.  
 Ser. No. 707,068.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 3  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004063955	A1	20040401	US 2001-973142	20011009
US 6972296	B2	20051206		
ZA 2001008777	A	20030124	ZA 2001-8777	20011024
NZ 515252	A	20040130	NZ 2001-515252	20011102
NO 2001005394	A	20020507	NO 2001-5394	20011105
EP 1203766	A2	20020508	EP 2001-125494	20011106
EP 1203766	A3	20041208		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

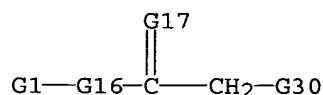
TR 200103179	A2	20020621	TR 2001-3179	20011106
BR 2001006840	A	20050201	BR 2001-6840	20011106
AU 2001097084	A5	20020207	AU 2001-97084	20011205
AU 782616	B2	20050811		
CN 1412181	A	20030423	CN 2001-145182	20011229
CA 2366800	AA	20030410	CA 2002-2366800	20020107
SG 107574	A1	20041229	SG 2002-313	20020116
JP 2003119181	A2	20030423	JP 2002-31953	20020208

## PRIORITY APPLN. INFO.:

US 1999-132971P	19990507
US 2000-565920	20000505
US 2000-707068	20001106
AU 2000-52679	20000505
US 2001-973142	20011009

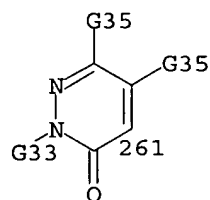
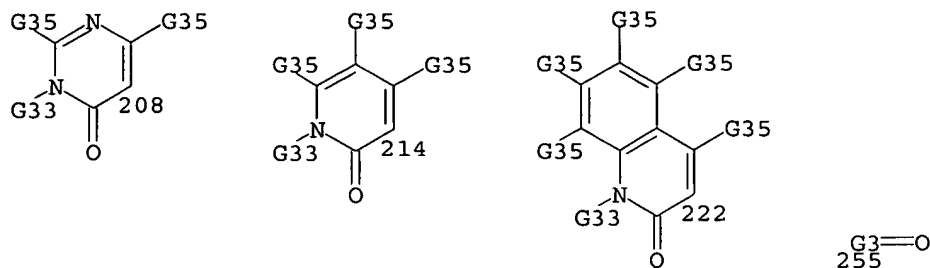
AB The invention relates to a method for the inhibition of the binding of  $\alpha 4\beta 1$  integrin to its receptors [e.g., VCAM-1 (vascular cell adhesion mol.-1) and fibronectin], compds. that inhibit this binding, and the use of such compds. for the control or prevention of diseases states in which  $\alpha 4\beta 1$  is involved. The claims include compds. of general formula I [n is 3-10; Y is CO, N, CR1, CR2R3, NR5, CH, O, S; A is O, S, CR16R17, NR6; E is CH2, O, S, NR7; J is O, S, NR8; T is CO, (CH2)0-3; M is R9R10, (CH2)0-3; L is O, NR11, S, (CH2)0-1; X is CO2B, PO3H2, SO3H, SO2NH2, SO2NHCOR12, OPO3H2, CONHCOR13, CONHSO2R14, OH, tetrazolyl, H; W is C, CR15, N; B, R1-R17 are H, halo, alkyl, alkoxy, acyl, CF3, CO2H, etc.]. Thus, pyridine-containing 3-aminopropionic acid derivative II was prepared by a multistep procedure and showed IC50 = 10 nM in a fibronectin inhibition assay.

## MSTR 1B

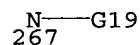


G1 = carbocycle <containing 4 or more C,  
 0 or more double bonds> (opt. substd.) /  
 heterocycle <containing 4 or more atoms,

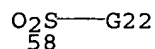
0 or more double bonds> (opt. substd.) / 255 /  
(Specifically claimed: 208 / 214 / 222 / 261)



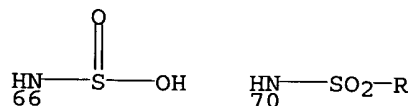
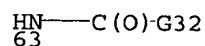
- G2 = H / R / aryl <containing 6-12 C>  
(opt. substd. by G12) / heteroaryl <containing zero or more  
O, zero or more S, zero or more N> (opt. substd. by G12) /  
alkyl <containing 1-12 C> (substd. by 1 or more G11) /  
heterocycle <containing 3-10 atoms, zero or more O,  
zero or more S, zero or more N> (opt. substd. by G12) /  
alkyl <containing 1-12 C> (substd. by G27) /  
(Specifically claimed: Ph (opt. substd.))
- G3 = carbocycle <containing 4 or more C,  
0 or more double bonds> (opt. substd.) /  
heterocycle <containing 4 or more atoms,  
0 or more double bonds> (opt. substd.)
- G11 = aryl <containing 6-12 C> (opt. substd.) /  
heteroaryl <containing zero or more O, zero or more S,  
zero or more N> (opt. substd.)
- G12 = R / alkyl <containing 1-12 C> (opt. substd.)
- G16 = O / S / **NH** / 267



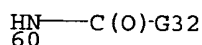
- G17 = O / S / NH (opt. substd.)
- G19 = R / alkyl <containing 1-12 C>  
(opt. substd. by 1 or more G24)
- G20 = PO3H2 / 58 / OPO3H2 / tetrazolyl / **OH** / H



- G21 = OH (opt. substd.) / 63 / 66 / 70 /  
(Specifically claimed: alkoxy <containing 1-12 C>  
(substd. by 1 or more G11))



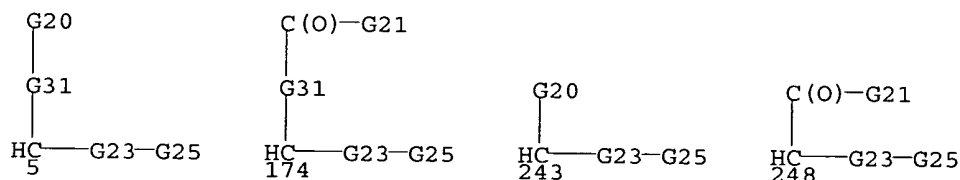
G22 = OH / NH2 / 60



- G23 = C(O) / **bond** / alkylene <containing 1-3 C, unbranched>  
 G24 = R / aryl <containing 6-12 C> (opt. substd.) / heteroaryl <containing zero or more O, zero or more S, zero or more N> (opt. substd.)  
 G25 = H / R / aryl <containing 6-12 C> (opt. substd. by G12) / heteroaryl <containing zero or more O, zero or more S, zero or more N> (opt. substd. by G12) / alkyl <containing 1-12 C> (substd. by 1 or more G11) / heterocycle <containing 3-10 atoms, zero or more O, zero or more S, zero or more N> (opt. substd. by G12) / alkyl <containing 1-12 C> (substd. by G27) / 73 / 77 / (Specifically claimed: Ph (opt. substd.))



- G26 = O / S / **NH** (opt. substd.)  
 G27 = heterocycle <containing 3-10 atoms, zero or more O, zero or more S, zero or more N> (opt. substd.)  
 G30 = 5 / 174 / **243** / 248



- G31 = carbon chain <containing 1 or more C, 0 or more double bonds, 0 or more triple bonds> (opt. substd. by G24)  
 G32 = H / R  
 G33 = H / R / alkyl <containing 1-12 C> (substd. by 1 or more G11)  
 G35 = H / R / alkyl <containing 1-12 C> (substd. by 1 or more G11) / alkoxy <containing 1-12 C> (substd. by 1 or more G11)  
 Patent location: claim 1  
 Note: additional ring formation also claimed  
 Note: or pharmaceutically acceptable salts  
 Note: substitution is restricted

REFERENCE COUNT: 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 48 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 140:27667 MARPAT

TITLE: A process for preparation of novel antiarrhythmic and cardioprotective substituted propenoyl guanidines

INVENTOR(S): Naik, Ramchandra Ganapati; Rajagopalan, Ramanujam; Khandelwal, Yatendra; Kulkarni, Anagha Suhas; Ghate, Anil Vasantrao; Lang, Hans Jochen; Scholz, Wolfgang

PATENT ASSIGNEE(S): Hoechst India Limited, India

SOURCE: Indian, 25 pp.

CODEN: INXXAP

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

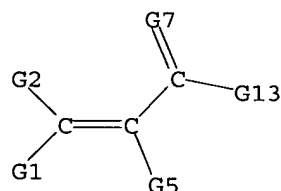
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
IN 177137	A	19961116	IN 1992-BO394	19921211
PRIORITY APPLN. INFO.:			IN 1992-BO394	19921211

OTHER SOURCE(S): CASREACT 140:27667

AB The novel antiarrhythmic and cardioprotective substituted propenoylguanidines I [R1 = (un)substituted aryl, heteroaryl; R2 = H, (un)substituted alkyl, aryl, CO<sub>2</sub>H, etc.; R3 = H, (un)substituted alkyl, aryl, CO<sub>2</sub>H, etc.; R4-R6 = H, alkyl; or R5 and R6 together may be a 5-7 membered ring; R7 = H, OH, NH<sub>2</sub>, alkyl; X = O, S, NH] were prepared by reacting a substituted aromatic aldehyde such as ArCHO with a Wittig reagent such as Ph<sub>3</sub>P:CHCO<sub>2</sub>Et followed hydrolysis of the resulting ArCH:CHCO<sub>2</sub>Et with an alkali such as aqueous NaOH to obtain the substituted propenoic acid (substituted cinnamic acid) which is reacted with SOCl<sub>2</sub> at room temperature to 80°C followed by reaction of the resulting acid chloride with guanidine in an aprotic organic solvent such as 1,2-dimethoxyethane at 5-10°C. Thus, synthesis of 2-methylcinnamoylguanidine.HCl, starting from 2-MeC<sub>6</sub>H<sub>4</sub>CHO and Ph<sub>3</sub>P:CHCO<sub>2</sub>Et, was given. The compds. I reduced the duration of reperfusion-induced arrhythmias and restored cardiac contractility to normal at 1 μM (data given).

## MSTR 1

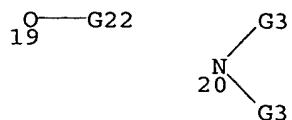


G1 = aryl (opt. substd. by 1 or more G18) / heteroaryl (opt. substd. by 1 or more G21) / (Example: Ph (opt. substd.))

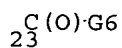
G2 = H / alkyl <containing 1-16 C> (opt. substd. by 1 or more G24) / aryl (opt. substd. by 1 or more G18) / CO<sub>2</sub>H / 10 / F / Cl / Br / I

C(O)-G4  
10

G3 = alkyl <containing 1-6 C>  
 G4 = 19 / 20 / alkoxy <containing 1-6 C>



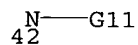
G5 = H / alkyl <containing 1-16 C>  
 (opt. substd. by 1 or more G24) /  
 aryl (opt. substd. by 1 or more G18) / CO<sub>2</sub>H / 23 / F / Cl /  
 Br / I



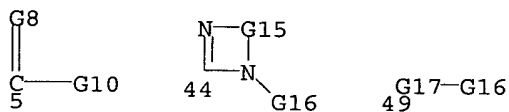
G6 = **alkylamino** <containing 1-6 C> /  
 dialkylamino <each alkyl containing 1-6 C> /  
 alkoxy <containing 1-6 C>

G7 = O / S / NH

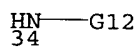
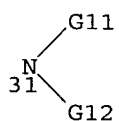
G8 = NH / 42



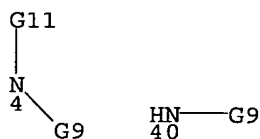
G9 = 5 / 44 / 49



G10 = NH<sub>2</sub> / 31 / 34



G11 = alkyl <containing 1-6 C>  
 G12 = OH / NH<sub>2</sub> / alkyl <containing 1-6 C>  
 G13 = 4 / 40





G15 = R <"group necessary to form a 5-7 membered ring">  
 G16 = H / alkyl <containing 1-6 C> / OH / NH2  
 G17 = heterocycle <containing 5-7 atoms, 2 or more N,  
 1 or more double bonds, 5- to 7-membered monocyclic ring>  
 G18 = alkyl <containing 1-6 C> /  
 alkoxy <containing 1-6 C> (opt. substd. by 1 or more aryl  
 (opt. substd.)) / Ph / OH / CO2H /  
 alkoxycarbonyl <containing 1-6 C> / NO2 / NH2 /  
 alkylamino <containing 1-6 C> /  
 dialkylamino <each alkyl containing 1-6 C> /  
 heterocycle <containing 5-7 atoms, 1 or more N,  
 attached through 1 or more N, 5- to 7-membered monocyclic  
 ring> / F / Cl / Br / I / CN / SO3H / SO2NH2 / 51 / 53

O<sub>2</sub>S—G19      O<sub>2</sub>S—G20  
 51                      53

G19 = dialkylamino <each alkyl containing 1-6 C> /  
 heterocycle <containing 5-7 atoms, 1 or more N,  
 attached through 1 or more N, 5- to 7-membered monocyclic  
 ring> / 57

HN—R  
 57

G20 = alkylamino <containing 1-6 C>  
 G21 = alkyl <containing 1-6 C> /  
 alkoxy <containing 1-6 C> / OH / CO2H /  
 alkoxycarbonyl <containing 1-6 C> / NO2 / NH2 /  
 alkylamino <containing 1-6 C> /  
 dialkylamino <each alkyl containing 1-6 C> /  
 heterocycle <containing 5-7 atoms, 1 or more N,  
 attached through 1 or more N, 5- to 7-membered monocyclic  
 ring> / F / Cl / Br / I / CN / SO3H / SO2NH2 / 55

O<sub>2</sub>S—G23  
 55

G22 = alkylamino <containing 1-6 C>  
 G23 = alkylamino <containing 1-6 C> /  
 heterocycle <containing 5-7 atoms, 1 or more N,  
 attached through 1 or more N, 5- to 7-membered monocyclic  
 ring> / dialkylamino <each alkyl containing 1-6 C>  
 G24 = OH / Cl / Br / F / alkoxy <containing 1-6 C> /  
 alkoxycarbonyl <containing 1-6 C> / NH2 /  
 alkylamino <containing 1-6 C> /  
 dialkylamino <each alkyl containing 1-6 C> / CO2H

Patent location: claim 1

L71 ANSWER 49 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 139:350637 MARPAT

TITLE: Preparation of 5-oxo and 5-thio derivatives of  
 5H-indeno[1,2-b]pyridine with adenosine A2a receptor  
 binding and phosphodiesterase inhibiting activity for  
 the treatment of neurodegenerative disorders and  
 inflammation related diseases

INVENTOR(S): Heintzelman, Geoffrey R.; Averill, Kristin M.; Dodd, John H.; Demarest, Keith T.; Tang, Yuting; Jackson, Paul F.

PATENT ASSIGNEE(S): Ortho-McNeil Pharmaceutical, Inc., USA

SOURCE: PCT Int. Appl., 112 pp.  
CODEN: PIXXD2

DOCUMENT TYPE: Patent

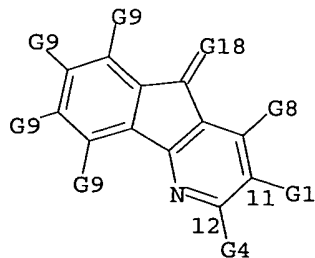
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 5

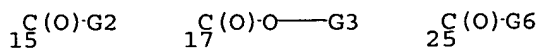
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003088963	A1	20031030	WO 2002-US230825	20020927
<p>W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW</p> <p>RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG</p>				
US 2003212089	A1	20031113	US 2002-123389	20020416
US 6958328	B2	20051025		
CA 2488929	AA	20031030	CA 2002-2488929	20020927
AU 2002341875	A1	20031103	AU 2002-341875	20020927
BR 2002015699	A	20050503	BR 2002-15699	20020927
CN 1809349	A	20060726	CN 2002-810472	20020927
PRIORITY APPLN. INFO.:				
			US 2002-123389	20020416
			US 2001-284465P	20010418
			WO 2002-US30825	20020927
<p>AB The title compds. [I; R1 = COR5 (wherein R5 = H, alkyl, aryl, arylalkyl), CO2R6 (R6 = H, alkyl, aryl, arylalkyl), CN, etc.; R2 = alkyl, aryl, heteroaryl, etc.; R3 = H, halo, alkyl, etc.; R4 = H, alkyl, CH2Ph, etc.; X = S, O], useful for treating disorders ameliorated by antagonizing adenosine A2a receptors or reducing PDE activity in appropriate cells, were prepared Thus, oxidation of dihydropyridine II (preparation given) afforded</p> <p>81% III. The IC50 and %inhibition data on PDE 4,5 and 7A, and Ki on A2a and A1 receptors binding for representative compds. I were given. Pharmaceutical compns. comprising the compound I are claimed. This invention also provides therapeutic and prophylactic methods using the instant pharmaceutical compns.</p>				

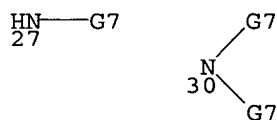
## MSTR 1



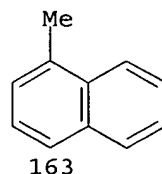
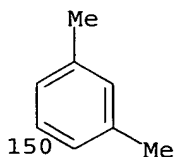
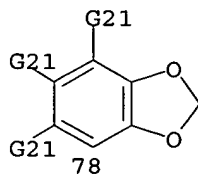
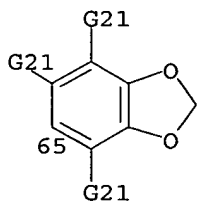
G1 = 15 / CO<sub>2</sub>H / 17 / CN / 25 /  
 R <"carboxylic acid bioisotere"> /  
 heteroaryl <containing 5-10 atoms, 1-3 heteroatoms,  
 zero or more S, zero or more O,  
 zero or more N (no other heteroatoms)> (opt. substd.)

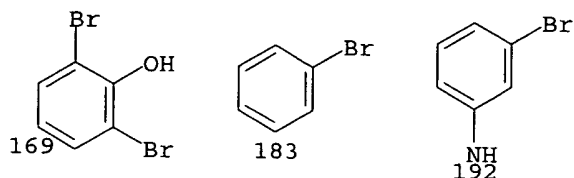


G2 = H / alkyl <containing 1-8 C> (opt. substd.) /  
 aryl (opt. substd.) / aralkyl (opt. substd.)  
 G3 = alkyl <containing 1-8 C>  
 (opt. substd. by 1 or more G19) / aryl (opt. substd.) /  
 aralkyl (opt. substd.) / R / (Specifically claimed: Me / Et)  
 G4 = H / alkyl <containing 1-3 C> (opt. substd.) /  
 CH<sub>2</sub>Ph (opt. substd.) / NH<sub>2</sub> / alkylamino <containing 1-6 C>  
 (opt. substd.) / dialkylamino <each alkyl containing 1-6 C>  
 (opt. substd.) / (Specifically claimed: Me)  
 G5 = O / NH  
 G6 = NH<sub>2</sub> / 27 / 30 / heterocycle <containing 1 or more  
 N, zero or more O, zero or more S (no other heteroatoms),  
 attached through 1 or more N> (opt. substd.)

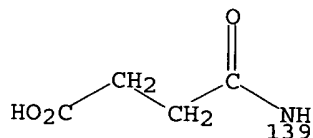
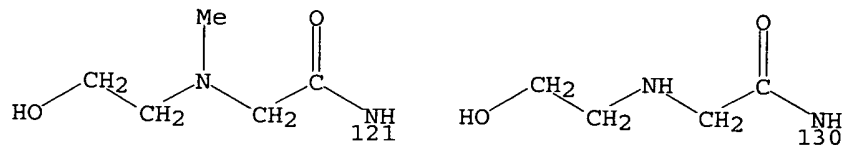
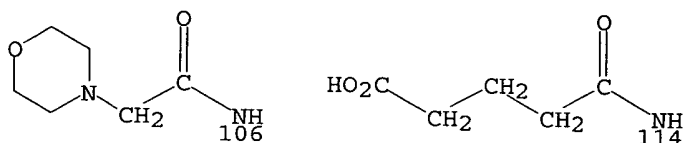
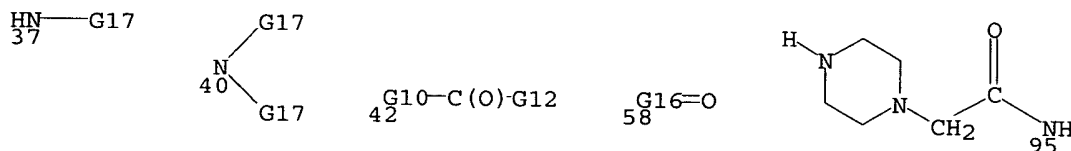


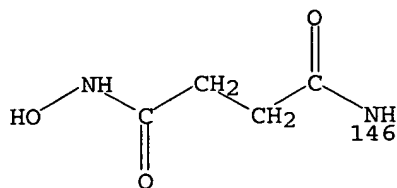
G7 = alkyl <containing 1-8 C> (opt. substd.) /  
 cycloalkyl <containing 3-7 C> (opt. substd.) / CF<sub>3</sub> / OH /  
 alkoxy <containing 1-8 C> (opt. substd.) /  
 alkylcarbonyl <containing 1-5 C> (opt. substd.) /  
 alkylcarbonyl (opt. substd.) / CO<sub>2</sub>H /  
 aralkyl (opt. substd.) / aryl (opt. substd.) /  
 heteroaryl <containing 5-10 atoms, 1-3 heteroatoms,  
 zero or more S, zero or more O,  
 zero or more N (no other heteroatoms)> (opt. substd.) /  
 heterocycle <containing zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.)  
 G8 = alkyl (opt. substd.) / aryl (opt. substd.) /  
 heteroaryl <containing 5-10 atoms, 1-3 heteroatoms,  
 zero or more S, zero or more O,  
 zero or more N (no other heteroatoms)> (opt. substd.) /  
 heterocycle <containing zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.) /  
 cycloalkyl <containing 3-7 C> (opt. substd.) /  
 (Specifically claimed: furyl (opt. substd.) /  
 Ph (opt. substd.) / naphthyl (opt. substd.) / 65 / 78 / 150 /  
 163 / 169 / m-C<sub>6</sub>H<sub>4</sub>Me / p-C<sub>6</sub>H<sub>4</sub>Me / 183 / 192)





G9 = H / F / Cl / Br / I / alkyl <containing 1-8 C> (opt. substd.) / aralkyl (opt. substd.) / cycloalkyl <containing 3-7 C> (opt. substd.) / alkoxy <containing 1-8 C> (opt. substd.) / CN / alkoxycarbonyl <containing 1-4 C> (opt. substd.) / CF3 / alkylsulfonyl <containing 1-8 C> (opt. substd.) / NO2 / OH / OCF3 / alkylcarbonyloxy <containing 1-8 C> (opt. substd.) / aryl (opt. substd.) / heteroaryl <containing 5-10 atoms, 1-3 heteroatoms, zero or more S, zero or more O, zero or more N (no other heteroatoms)> (opt. substd.) / heterocycle <containing zero or more N, zero or more O, zero or more S (no other heteroatoms)> (opt. substd.) / NH2 / 37 / 40 / heterocycle <containing 1 or more N, zero or more O, zero or more S (no other heteroatoms), attached through 1 or more N> (opt. substd.) / 42 / 58 / (Specifically claimed: 95 / 106 / 114 / 121 / 130 / 139 / 146 / alkylcarbonylamino / NH2 / NO2 / NHCOMe)





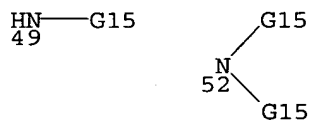
G10 = NH / 45

$\text{N}_{45} \text{---} \text{G11}$

G11 = alkyl (opt. substd.)  
 G12 = H / alkyl <containing 1-20 C> (opt. substd.) /  
 alkoxy <containing 1-3 C> / alkyl (substd. by CO<sub>2</sub>H) / 47 /  
 54 / aryl (opt. substd.) / aralkyl (opt. substd.) /  
 heteroaryl <containing 5-10 atoms, 1-3 heteroatoms,  
 zero or more S, zero or more O,  
 zero or more N (no other heteroatoms)> (opt. substd.) /  
 heterocycle <containing zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.) /  
 cycloalkyl <containing 3-7 C> (opt. substd.)

$\text{G13-G14}_{47} \quad \text{G13-C(O)-G14}_{54}$

G13 = (1-6) CH<sub>2</sub>  
 G14 = NH<sub>2</sub> / 49 / 52



G15 = OH / alkyl <containing 1-20 C> /  
 alkoxy <containing 1-8 C>  
 G16 = heterocycle <containing 1 or more N> (opt. substd.)  
 G17 = alkyl <containing 1-8 C> (opt. substd.) /  
 aralkyl (opt. substd.) / cycloalkyl <containing 3-7 C>  
 (opt. substd.) / alkyl (substd. by CO<sub>2</sub>H) /  
 aryl (opt. substd.) / heteroaryl <containing 5-10 atoms,  
 1-3 heteroatoms, zero or more S, zero or more O,  
 zero or more N (no other heteroatoms)> (opt. substd.) /  
 heterocycle <containing zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.)  
 G18 = S / O  
 G19 = R / (Specifically claimed: CN / OH)  
 G21 = H / R  
 G1 + G4 = 21-11 22-12 / 24-11 23-12

$\text{C(O)-G5}_{21 \ 22} \quad \text{G5-C(O)}_{24 \ 23}$

Patent location: claim 1

Note: additional ring oxidation and quaternization also  
claimed  
Note: substitution is restricted  
Note: and pharmaceutically acceptable salts, esters, and  
prodrugs

REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 50 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 139:323793 MARPAT

TITLE: Synthesis of peptide nucleic acid monomers and  
triple-helix forming oligomers with non-standard bases  
for thymidine targeting in nucleic acid hybridization

INVENTOR(S): Nielsen, Peter E.; Haaime, Gerald; Eldrup, Anne B.

PATENT ASSIGNEE(S): Nielsen, Peter, Den.

SOURCE: U.S., 54 pp., Cont.-in-part of U.S. Ser. No. 862,629.  
CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

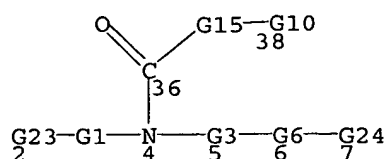
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6632919	B1	20031014	US 1998-83235	19980522
US 6617422	B1	20030909	US 1997-862629	19970523
AT 317265	E	20060215	AT 1998-923764	19980522

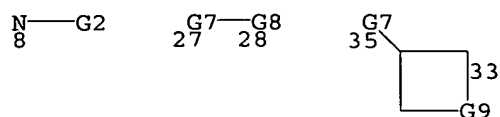
PRIORITY APPLN. INFO.: US 1997-862629 19970523

AB Novel peptide nucleic acid (PNA) oligomers and their constituent monomers, which form triple stranded structures with nucleic acids and show an increased specificity for thymidine in nucleic acid targets, are disclosed. The PNA oligomers and linked PNAs form triple stranded structures with nucleic acids that show an increased specificity for thymidine in nucleic acid targets relative to naturally occurring nucleobases. Thus, 3,6-dichloropyridazine was coupled first with 3-aminopropionic acid and then with benzyl alc. to give a protected intermediate that was then reacted with Et N-(2-Boc-aminoethyl)glycinate (Boc = tert-butoxycarbonyl) to give a protected PNA-type monomer (I). Hybridization of a PNA containing I [H-TJT-I-TJ-I-TTTEETTTACTATCT-NH<sub>2</sub>] (J = pseudoisocytosine; E = 8-amino-3,6-dioxaoctanoic acid) formed a triplex with DNA oligomer H-d(CGCAGATAGTAAACGC)-H, with I bases in one leg of the triplex pairing with dT bases. The abnormal-base triplex had a thermal dissociation temperature (m.p.) of 57.0°, compared to 47.5° for a similar PNA which was abasic at I sites, or 46.0° for the PNA with G at I sites. In a similar experiment using PNA 10-mers hybridizing with complimentary DNA or PNA targets (PNAs with A-bases paired against abnormal bases), PNA [H-AGAG-(II)3-GAG-Lys-NH<sub>2</sub>] had m.p. of 75.0° against DNA, 78.0° against complimentary PNA, compared with 59.5° and 66.5° for a PNA containing T-bases in place of II.

MSTR 1

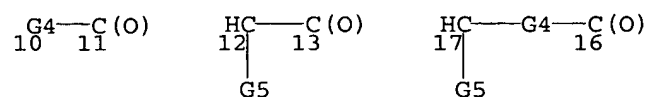


G1 = NH / 8 / 27-2 28-4 / 35-2 33-4



G2 = COMe / R <"protecting group">

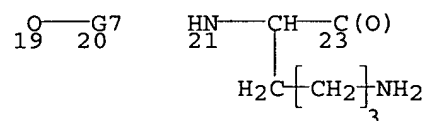
G3 = C(O) / 10-4 11-6 / 12-4 13-6 / 17-4 16-6



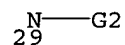
G4 = (1-5) CH2

G5 = H / R <"amino acid side chain">

G6 = O / NH / 19-5 20-7 / 21-5 23-7



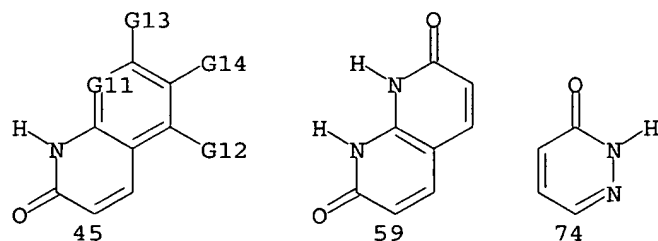
G7 = NH / 29



G8 = (1-6) CH2

G9 = (0-4) CH2

G10 = 45 / 59 / 74

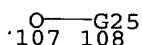


G11 = CH / N

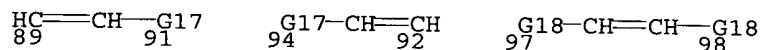
G12 = H / alkyl <containing 1-8 C> /  
cycloalkyl <containing 3-8 C> / (Specifically claimed: Me)

G13 = H / alkyl <containing 1-8 C> /

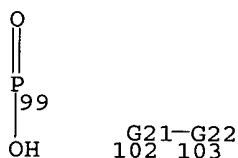
cycloalkyl <containing 3-8 C> / F / Cl / Br / I /  
 (Specifically claimed: Me)  
 G14 = H / alkyl <containing 1-8 C> /  
 cycloalkyl <containing 3-8 C> / F / Cl / Br / I /  
 (Specifically claimed: Me)  
 G15 = G16 / 77-36 79-38 / 82-36 80-38 / 85-36 86-38 /  
 87-36 88-38 / (Specifically claimed: 107-36 108-38 )



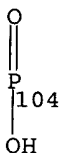
G16 = (1-7) CH2  
 G17 = (1-5) CH2  
 G18 = alkylene <containing 1-5 C, unbranched>  
 G19 = G16 / 89-36 91-88 / 94-36 92-88 / 97-36 98-88



G20 = SO2 / phenylene / 99 / NH / S / 102-87 103-38 /  
 C(O) / CH2



G21 = SO2 / phenylene / 104 / C(O)



G22 = NH / S / CH2  
 G23 = H / R <"protecting group">  
 G24 = H / R <"protecting group">  
 G25 = (2-3) CH2  
 G13+G14 = CH=CHCH=CH  
 Patent location: claim 1

REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 51 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 139:245895 MARPAT  
 TITLE: Preparation of indolamide derivatives that possess



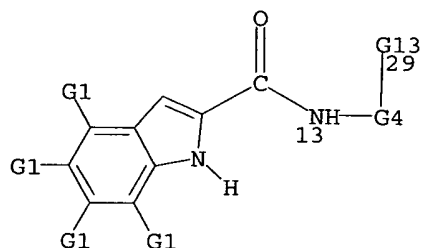
glycogen phosphorylase inhibitory activity  
 INVENTOR(S): Whittamore, Paul Robert Owen; Bennett, Stuart Norman  
 Lile; Simpson, Iain  
 PATENT ASSIGNEE(S): Astrazeneca AB, Swed.; Astrazeneca UK Limited  
 SOURCE: PCT Int. Appl., 90 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003074484	A1	20030912	WO 2003-GB883	20030304
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RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
CA 2477717	AA	20030912	CA 2003-2477717	20030304
AU 2003216988	A1	20030916	AU 2003-216988	20030304
BR 2003008144	A	20041207	BR 2003-8144	20030304
EP 1483240	A1	20041208	EP 2003-712310	20030304
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK			
US 2005107362	A1	20050519	US 2003-506554	20030304
CN 1639120	A	20050713	CN 2003-805309	20030304
JP 2005524667	T2	20050818	JP 2003-572954	20030304
ZA 2004006681	A	20050922	ZA 2004-6681	20040823
NO 2004004032	A	20041005	NO 2004-4032	20040924
PRIORITY APPLN. INFO.:			GB 2002-5176	20020306
			WO 2003-GB883	20030304

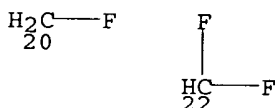
AB Heterocyclic amides of formula (I; 5-chloro-2-[N-(1-hydroxyindan-2-yl)carbamoyl]indole; A is phenylene or heteroarylene; m is 0, 1 or 2; n is 0, 1 or 2; R1 = for example halo, nitro, cyano, hydroxy, carboxy; r is 1 or 2; Y is -NR2R3 or -OR3; R2 and R3 = for example H, hydroxy, aryl, heterocyclyl and C1-4 alkyl((un)substituted by 1 or 2 R8 groups); R4 = for example H, halo, nitro, cyano, hydroxy, C1-4 alkyl, and C1-4 alkanoyl; R8 = for example hydroxy, -COCOOR9, -C(O)N(R9)(R10), -NHC(O)R9, (R9)(R10)N- and -COOR9; R9 and R10 = for example H, hydroxy, C1-4 alkyl((un)substituted by 1 or 2 R13); R13 = hydroxy, halo, trihalomethyl and C1-4 alkoxy) or a pharmaceutically acceptable salt or prodrug thereof are claimed. They possess glycogen phosphorylase inhibitory activity and accordingly have value in the treatment of disease states associated with increased glycogen phosphorylase activity, e.g. type 2 diabetes, insulin resistance, syndrome X, hyperinsulinemia, hyperglucagonemia, cardiac ischemia, obesity. Inhibitory activity (IC50) of I in the direction of glycogen synthesis and on glycogen degradation were measure and are generally 100 µM to 1 nM; 7.4 µM for 5-chloro-N-[(1R,2R)-1-[[[(2-hydroxyethyl)(phenylmethyl)amino]acetyl]amino]-2,3-dihydro-1H-inden-2-yl]-1H-indole-2-carboxamide in the latter assay. Processes for the manufacture of said heterocyclic amide derivs. and pharmaceutical compns. containing them are described. Thirty-seven example prepsns. and/or characterization data for I and 11 for intermediates are included. For example, to prepare 5-chloro-2-[N-(trans-1-hydroxyindan-2-yl)carbamoyl]indole,

5-chloro-1H-indole-2-carboxylic acid (0.67 mmol) was dissolved in CH<sub>2</sub>Cl<sub>2</sub> (10 mL) containing DIPEA (1.19 mmol) and trans-2-aminoindan-1-ol (0.67 mmol) and HATU (0.67 mmol); the reaction mixture was stirred at room temperature for .apprx.18 h; workup gave 100 % of the desired compound To prepare trans-2-aminoindan-1-ol, isoamyl nitrite (108 mmol) was added to a solution of indan-1,2-dione (90 mmol) in MeOH (380 mL) at 45° followed by concentrated HCl (12 mL) dropwise over 5 min; the reaction mixture was stirred for 3 h at room temperature; workup gave indan-1,2-dione-2-oxime (43%), which (39 mmol) in EtOH (470 mL) and 4M HCl/dioxane (36 mL) was hydrogenated at room temperature and 40 psi; workup gave 86 % of the trans-2-aminoindan-1-ol.

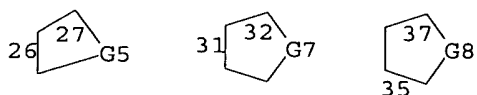
## MSTR 1



G1 = 2 or more H / F / Cl / Br / I / NO<sub>2</sub> / CN / OH / 20 / 22 / CF<sub>3</sub> / OCF<sub>3</sub> / CO<sub>2</sub>H / CONH<sub>2</sub> / alkyl <containing 1-4 C> / alkenyl <containing 2-4 C> / alkynyl <containing 2-4 C> / alkoxy <containing 1-4 C> / CHO / alkylcarbonyl <containing 1-4 C>

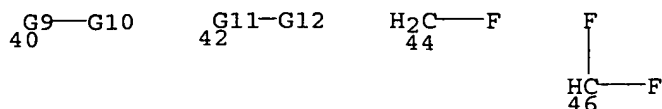


G4 = 26-13 27-29 / 31-13 32-29 / 35-13 37-29

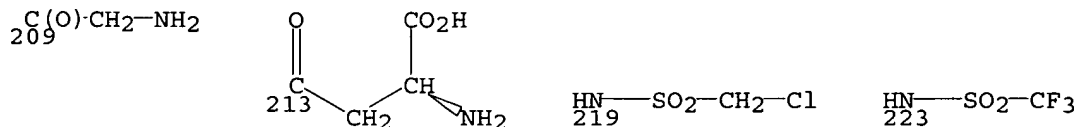
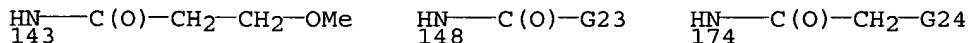
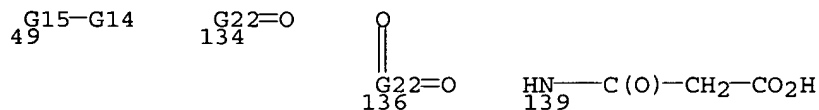


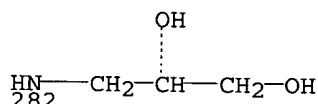
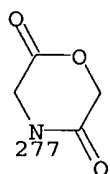
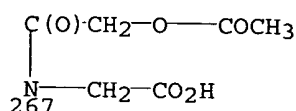
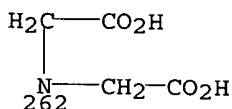
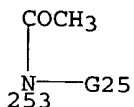
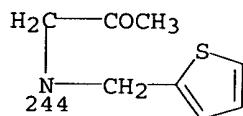
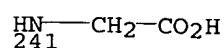
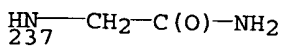
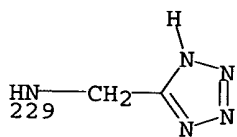
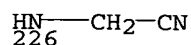
G5 = o-C<sub>6</sub>H<sub>4</sub> (opt. substd. by (1-2) G6) / heterocycle <containing 5 or more atoms, 1-6 heteroatoms, zero or more N, zero or more S, zero or more O (no other heteroatoms), aromatic, mono- or bicyclic> (opt. substd. by (1-2) G6) / carbocycle <containing 8-11 C, aromatic, 6 or more normalized bonds, bicyclic, 1 or more 6-membered rings> (opt. substd. by (1-2) G6)

G6 = F / Cl / Br / I / NO<sub>2</sub> / CN / OH / CO<sub>2</sub>H / 40 / 42 / alkyl <containing 1-4 C> / alkenyl <containing 2-4 C> / alkynyl <containing 2-4 C> / alkoxy <containing 1-4 C> / alkylcarbonyl <containing 1-4 C> / CHO / OCHO / alkylcarbonyloxy <containing 1-4 C> / alkyl <containing 1-4 C> (substd. by OH) / 44 / 46 / CF<sub>3</sub> / OCF<sub>3</sub> / Me

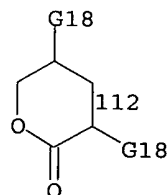
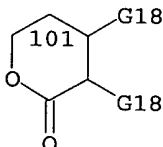
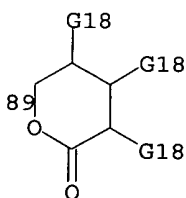
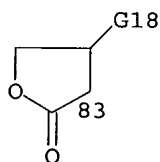
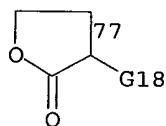
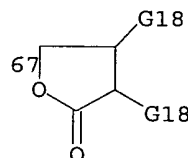
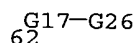
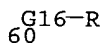
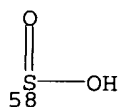
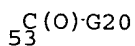


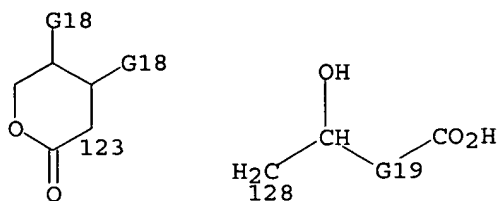
- G7 = o-C<sub>6</sub>H<sub>4</sub> (opt. substd. by (1-2) G6) /  
heterocycle <containing 5 or more atoms, 1-6 heteroatoms,  
zero or more N, zero or more S,  
zero or more O (no other heteroatoms), aromatic,  
mono- or bicyclic> (opt. substd. by (1-2) G6) /  
carbocycle <containing 8-11 C, aromatic,  
6 or more normalized bonds, bicyclic,  
1 or more 6-membered rings> (opt. substd. by (1-2) G6)
- G8 = o-C<sub>6</sub>H<sub>4</sub> (opt. substd. by (1-2) G6) /  
heterocycle <containing 5 or more atoms, 1-6 heteroatoms,  
zero or more N, zero or more S,  
zero or more O (no other heteroatoms), aromatic,  
mono- or bicyclic> (opt. substd. by (1-2) G6) /  
carbocycle <containing 8-11 C, aromatic,  
6 or more normalized bonds, bicyclic,  
1 or more 6-membered rings> (opt. substd. by (1-2) G6)
- G9 = C(O) / SO<sub>2</sub>
- G10 = NH<sub>2</sub> / alkylamino <containing 1-4 C> /  
dialkylamino <each alkyl containing 1-4 C>
- G11 = S / S(O) / SO<sub>2</sub>
- G12 = alkyl <containing 1-4 C>
- G13 = 49 / heterocycle <containing 4-7 atoms,  
1-4 heteroatoms, 1 or more N, zero or more O,  
zero or more S (no other heteroatoms),  
attached through 1 or more N, 4- to 7-membered monocyclic  
ring> (opt. substd. by (1-2) G21) / 134 / 136 /  
(Specifically claimed: NHSO<sub>2</sub>Me / 139 / 143 / **148** / 174 /  
209 / 213 / 219 / 223 / 226 / 229 / 237 / 241 / 244 / 253 /  
262 / 267 / 277 / 282)



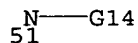


G14 = H / OH / alkoxy <containing 1-4 C> / CHO /  
 alkylcarbonyl <containing 1-4 C> / CONH2 /  
 cycloalkyl <containing 3-7 C> (opt. substd. by (1-2) OH) /  
 alkyl <containing 1-4 C> (substd. by CN) /  
 heterocycle <containing 1-4 heteroatoms, zero or more N,  
 zero or more S, zero or more O (no other heteroatoms),  
 5- to 7-membered monocyclic ring> (opt. substd.) /  
 aryl (opt. substd.) / alkyl <containing 1-4 C>  
 (opt. substd.) / 53 / SH / 55 / 58 / 60 / 62 / 67 / 77 / 83 /  
 89 / 101 / 112 / 123 / 128

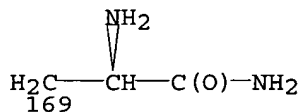
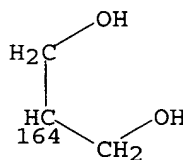
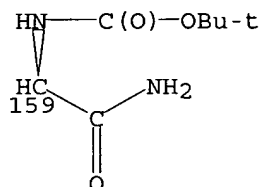
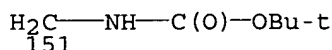




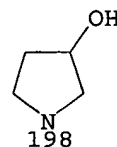
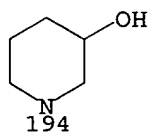
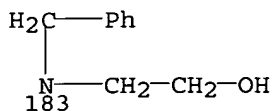
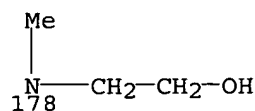
G15 = 51 / 0

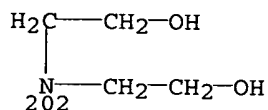


G16 = S / S(O) / SO2  
 G17 = (1-3) CH2  
 G18 = H / OH  
 G19 = (1-2) CH2  
 G20 = H / R  
 G21 = F / Cl / Br / I / CN / alkyl <containing 1-4 C> /  
 OH / alkoxy <containing 1-4 C> /  
 alkylthio <containing 1-4 C> / alkylsulfinyl <containing 1-4  
 C> / alkylsulfonyl <containing 1-4 C>  
 G22 = heterocycle <containing 4-7 atoms, 1-4 heteroatoms,  
 1 or more N, zero or more O, zero or more S (no other  
 heteroatoms), attached through 1 or more N,  
 4- to 7-membered monocyclic ring>  
 (opt. substd. by (1-2) G21)  
 G23 = Me / 151 / 159 / CH2CONH2 / CH2CO2H / CH2OH / 164 /  
 169 / CH2NH2

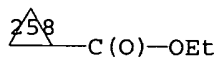


G24 = 178 / 183 / 194 / 198 / 202

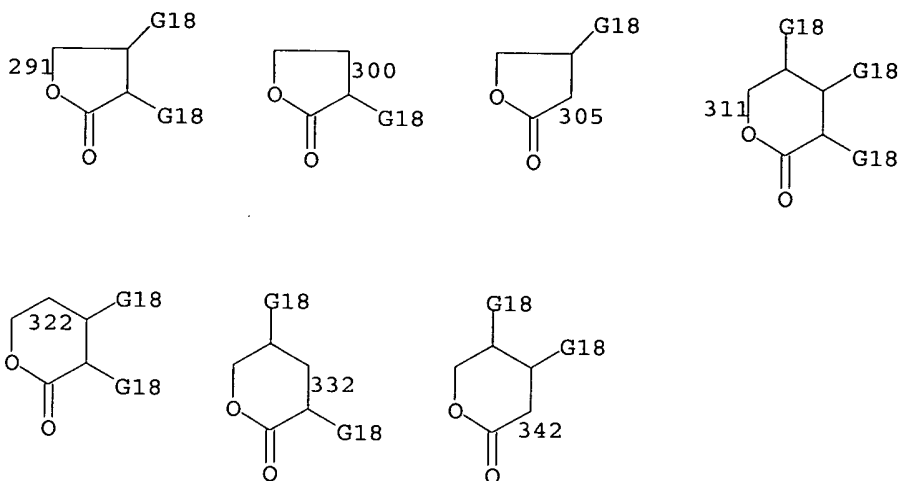




G25 = CO<sub>2</sub>H / 258 / CH<sub>2</sub>CO<sub>2</sub>H / CH<sub>2</sub>CONH<sub>2</sub>



G26 = 291 / 300 / 305 / 311 / 322 / 332 / 342



Patent location: claim 1

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 52 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 139:245782 MARPAT

TITLE: Preparation of N,N'-substituted-1,3-diamino-2-hydroxypropanes for treating Alzheimer's disease

INVENTOR(S): Varghese, John; Maillard, Michel; Jagodzinska, Barbara; Beck, James P.; Gailunas, Andrea; Fang, Larry; Sealy, Jennifer; Tenbrink, Ruth; Freskos, John; Mickelson, John; Samala, Lakshman; Hom, Roy

PATENT ASSIGNEE(S): Elan Pharmaceuticals, Inc., USA; Pharmacia & Upjohn Company

SOURCE: PCT Int. Appl., 1243 pp.  
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003040096	A2	20030515	WO 2002-XA36072	20021108
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,				

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 GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,  
 LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,  
 PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,  
 UA, UG, US, UZ, VN, YU, ZA, ZM, ZW  
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,  
 CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,  
 PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,  
 NE, SN, TD, TG

WO 2003040096 A2 20030515 WO 2002-US36072 20021108

WO 2003040096 A3 20040506

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 LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,  
 PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,  
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RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,  
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 FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF,  
 CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

ZA 2004003578 A 20051010 ZA 2004-3578 20040511

PRIORITY APPLN. INFO.:

US 2001-337122P 20011108

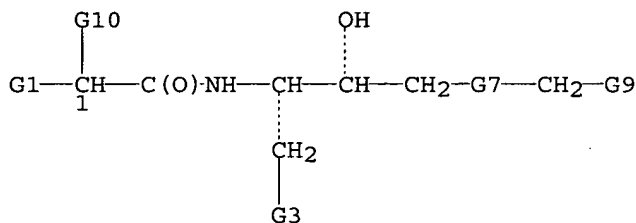
US 2001-344086P 20011228

US 2002-345635P 20020103

WO 2002-US36072 20021108

AB The title compds. [I; R1 = (un)substituted alkyl, alkenyl, alkynyl, etc.;  
 R2 = H, alkyl, haloalkyl, alkenyl, etc.; R3 = H, alkyl, haloalkyl,  
 alkenyl, etc.; or R2 and R3 are taken together with the carbon to which  
 they are attached to form a carbocycle of 3-7 carbon atoms, optionally  
 where one carbon atom is replaced by a heteroatom selected from the group  
 consisting of O, S, SO2, (un)substituted NH; R4 = alkyl, haloalkyl,  
 hydroxyalkyl, etc.; R5 = R6X (wherein X = CO, SO2, (un)substituted CH2; R6  
 = (un)substituted Ph, naphthyl, indanyl, etc.); R25 = H, alkyl, alkoxy,  
 etc.] which have activity as inhibitors of  $\beta$ -secretase and are  
 therefore useful in treating a variety of disorders such as Alzheimer's  
 disease, were prepared E.g., a multi-step synthesis of (1S,2R)-II, starting  
 from (2S)-2-[(tert-butoxycarbonyl)amino]-3-(3,5-difluorophenyl)propanoic  
 acid, was given. The compds. I showed IC50 of < 20  $\mu$ M in cell free  
 inhibition assay utilizing a synthetic APP substrate. This is a Part 2 of  
 1-2 series.

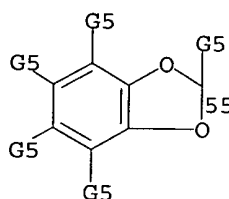
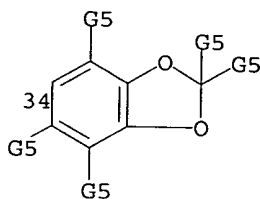
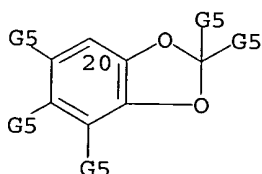
# MSTR 5



G1 = 171 / alkyl <containing 1 or more C>  
 (opt. substd. by 1 or more G13)

G11-G12  
171-172

- G2 = heterocycle <containing 5 or more atoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), 1-3 rings,  
including 5-, 6- or 7-membered rings> (opt. substd.) /  
carbocycle <containing 3 or more C, 0 or more double bonds,  
1-3 rings> (opt. substd.)
- G3 = Ph (opt. substd. by 1 or more G4) /  
cycloalkyl <containing 3-8 C> (opt. substd.) /  
SPh (opt. substd.) / 20 / 34 / 55 / thienyl (opt. substd.) /  
alkyl <containing 1 or more C> (opt. substd.) /  
furyl (opt. substd.)



- G4 = alkyl <containing 1-4 C> /  
alkoxy <containing 1-4 C> / OH /  
alkyl <containing 1-6 C> (substd. by OH) / halo /  
alkyl <containing 1-6 C> (substd. by 1 or more halo) /  
alkoxy <containing 1-6 C> (substd. by 1 or more halo) /  
alkoxy <containing 1-6 C> (substd. by Ph) /  
alkoxycarbonyl <containing 1-6 C> /  
alkyl <containing 1-4 C> (substd. by cycloalkyl <containing  
5-6 C>) / CN / 63

G6-CN  
63

- G5 = H / R  
G6 = (1-4) CH2  
G7 = NH (opt. substd.)  
G9 = Ph (opt. substd. by G21) / 138 / 140 / CN / CONH2

C(O)-G22      G24-G14  
138              140

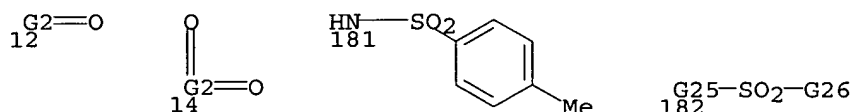
- G10 = H / R  
G11 = bond / R <"linking group"> /  
(Specifically claimed: C(O) / 187-1 188-172 /  
190-1 189-172 / SO2 / O / 191-1 192-172 / 194-1 193-172 /  
195-1 197-172 / S / 198-1 200-172 / NH / 201)

G29-G25      G25-G29      G28-G30      G31-G28      G28-G32-G28  
187 188      190 189      191 192      194 193      195              197

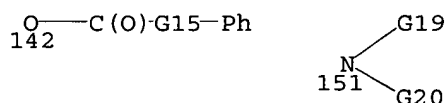




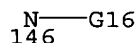
G12 = cyclohexyl (opt. substd.) /  
 cyclopentyl (opt. substd.) / alkyl <containing 1 or more C>  
 (opt. substd.) / Ph (opt. substd.) / NH<sub>2</sub> /  
 alkylamino <containing 1 or more C> (opt. substd.) /  
 dialkylamino <each alkyl containing 1 or more C>  
 (opt. substd.) / heterocycle <containing 5 or more atoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), 1-3 rings,  
 including 5-, 6- or 7-membered rings> (opt. substd.) /  
 carbocycle <containing 3 or more C, 0 or more double bonds,  
 1-3 rings> (opt. substd.) / 12 / 14 /  
 alkylsulfonyl <containing 1 or more C> (opt. substd.) /  
 cycloalkyl <containing 3-6 C> (substd. by alkyl <containing  
 1 or more C> (opt. substd.)) / alkoxy carbonyl <containing 1  
 or more C> (opt. substd.) / 181 / 182



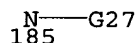
G13 = R / OH  
 G14 = 142 / Ph / SO<sub>2</sub>NH<sub>2</sub> / alkylaminosulfonyl <containing  
 1-6 C> / dialkylaminosulfonyl <each alkyl containing 1-6 C> /  
 cycloalkyl <containing 3-7 C> /  
 alkoxy carbonyl <containing 1-4 C> / H / NH<sub>2</sub> /  
 alkylamino <containing 1-6 C> /  
 dialkylamino <each alkyl containing 1-6 C> / 151 /  
 alkylcarbonylamino <containing 1-4 C>



G15 = NH / 146



G16 = alkyl <containing 1-4 C>  
 G19 = alkyl <containing 1-6 C>  
 G20 = Ph / CH<sub>2</sub>Ph  
 G21 = R / pyridyl / Ph / benzothienyl / thienyl / furyl /  
 pyrimidinyl / isoxazolyl  
 G22 = pyridyl  
 G24 = alkylene <containing 1 or more C> (opt. substd.)  
 G25 = NH / 185



G26 = NH<sub>2</sub> / alkylamino <containing 1-6 C> /  
 dialkylamino <each alkyl containing 1-6 C>  
 G27 = alkyl <containing 1-6 C>  
 G28 = alkylene <containing 1-4 C, unbranched>  
 G29 = C(O) / SO<sub>2</sub>  
 G30 = O / 204-191 205-172 / 207-191 206-172



G31 = O / 208-1 209-193 / 211-1 210-193



G32 = O / 212-195 213-197 / 215-195 214-197



Patent location: claim 35  
 Note: or pharmaceutically acceptable salts  
 Note: additional substitution also claimed  
 Note: substitution is restricted

L71 ANSWER 53 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 139:133346 MARPAT  
 TITLE: Preparation of derivatives of  $\alpha$ -  
 phenylthiocarboxylic and  $\alpha$ -phenyloxycarboxylic  
 acids useful for the treatment of diseases responding  
 to PPAR $\alpha$  activation  
 INVENTOR(S): Giannessi, Fabio; Dell'Uomo, Natalina; Tassoni,  
 Emanuela; Tinti, Maria Ornella; Sciarroni, Anna  
 Floriana; Bandera, Monica; Pessotto, Pompeo; Arduini,  
 Arduino  
 PATENT ASSIGNEE(S): Sigma-Tau Industrie Farmaceutiche Riunite S.p.A.,  
 Italy  
 SOURCE: PCT Int. Appl., 52 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003059875	A2	20030724	WO 2003-IT11	20030115
WO 2003059875	A3	20031204		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,				

FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF,  
 BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  
 CA 2472223 AA 20030724 CA 2003-2472223 20030115  
 AU 2003209679 A1 20030730 AU 2003-209679 20030115  
 EP 1474387 A2 20041110 EP 2003-729547 20030115  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK  
 BR 2003006824 A 20041221 BR 2003-6824 20030115  
 JP 2005514456 T2 20050519 JP 2003-559979 20030115  
 CN 1620429 A 20050525 CN 2003-802289 20030115  
 US 2005054671 A1 20050310 US 2004-501472 20041110

PRIORITY APPLN. INFO.:

IT 2002-RM14 20020115  
 WO 2003-IT11 20030115

AB Title compds. I [R = H, YCR5R6COX, mono- bi- tricyclic (hetero)aryl; m = 0-1; n = 0-3; when n = 1, R3-4 = H, alkyl, when n = 2-3, R3 = R4 = H; p = 0-1; X = OH, alkoxy; R1-2, R5-6 = H, alkyl, alkoxy, acyl, etc.; Q, Z = NH, O, S, amido, etc.; Y = O, S] are prepared For instance, 4-mercaptophenol is reacted with Me  $\alpha$ -bromoisobutyrate (CH<sub>3</sub>CN, NaH) to give Me 2-(4-hydroxyphenylthio)isobutyrate. Selected compds. exhibit PPAR $\alpha$  agonist activity at 2 $\mu$ M. I are useful for the treatment of heart failure, the hyperlipemias and atherosclerosis.

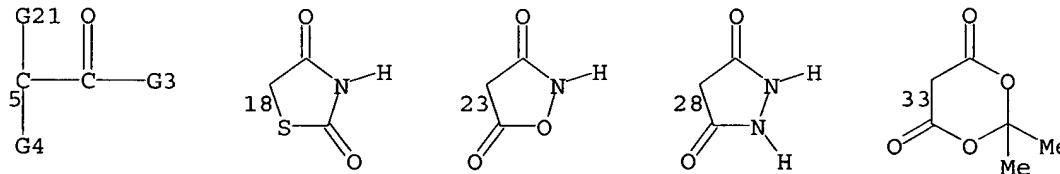
## MSTR 1

G19—G1—G2—G7

G1 = phenylene  
 G2 = O / S  
 G3 = OH / alkoxy <containing 1-3 C>  
 G4 = H / alkyl <containing 1-5 C> /  
 alkoxy (opt. substd. by 1 or more halo) /  
 OPh (opt. substd. by 1 or more G5) / 11 / 14

O—CH<sub>2</sub>—G6      C(O)—G3  
 11                      14

G5 = halo / NO<sub>2</sub> / OH / alkyl  
 G6 = Ph (opt. substd. by 1 or more G5)  
 G7 = 5 / 18 / 23 / 28 / 33



G8 = H / 53 / aryl <1-3 rings>  
 (opt. substd. by 1 or more G9) /  
 heteroaryl <containing zero or more N, (+1) charge,  
 1-3 rings> (opt. substd. by 1 or more G9) / 60

G2—G7      G12—G2—G7  
 53                      60

G9 = R / halo / NO2 / OH / alkyl (opt. substd. by 1 or more halo) / alkoxy (opt. substd. by 1 or more halo)  
 G10 = alkylene  
 G11 = aryl <1-3 rings> (opt. substd. by 1 or more G9) / heteroaryl <containing zero or more N, (+1) charge, 1-3 rings> (opt. substd. by 1 or more G9) / 63

G12-G2-G7  
 63

G12 = arylene <1-3 rings> (opt. substd. by 1 or more G9) / heteroarylene <containing zero or more N, (+1) charge, 1-3 rings> (opt. substd. by 1 or more G9)  
 G13 = 64 / G20 / 67-1 69-3 / 98-1 99-3 / 100-1 101-3

G14  
 64 G14 G16-G15-G18 G15-G22 G23-G24  
 67 68 69 98 99 100 101

G14 = H / alkyl <containing 1-5 C>  
 G15 = 70 / G20

G14  
 70 G14

G16 = O / S / NH / 74-1 76-68 / 77-1 79-68 /  
 80-1 81-68 / 82-1 83-68

HN-C(O)-G17 G17-C(O)-NH HN-C(O) C(O)-NH  
 74 76 77 79 80 81 82 83

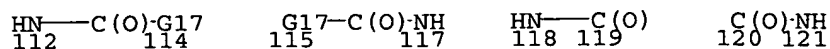
G17 = O / S / NH  
 G18 = O / S / NH / 84-68 86-3 / 87-68 89-3 /  
 90-68 91-3 / 92-68 93-3

HN-C(O)-G17 G17-C(O)-NH HN-C(O) C(O)-NH  
 84 86 87 89 90 91 92 93

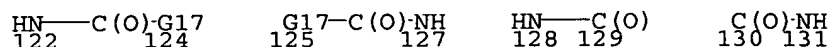
G19 = 2 / 58 / aryl <1-3 rings> (opt. substd. by 1 or more G9) / heteroaryl <containing zero or more N, (+1) charge, 1-3 rings> (opt. substd. by 1 or more G9) / 97 / 137 / H / 151

G8-G13 G10-G11 G12-G2-G7 G25-G10-G11 G2-G7  
 1 2 58 97 137 135 151

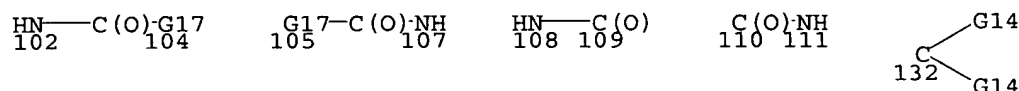
G20 = (2-3) CH2  
 G21 = H / R  
 G22 = O / S / NH / 112-98 114-3 / 115-98 117-3 /  
 118-98 119-3 / 120-98 121-3



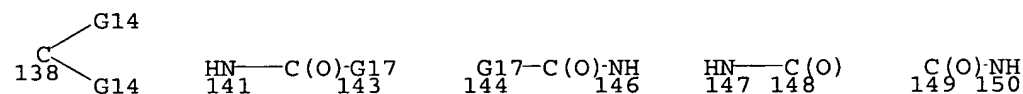
G23 = O / S / NH / 122-1 124-101 / 125-1 127-101 /  
128-1 129-101 / 130-1 131-101



G24 = 132 / G20 / 102-100 104-3 / 105-100 107-3 /  
108-100 109-3 / 110-100 111-3



G25 = 138 / G20 / O / S / NH / R / 141-3 143-135 /  
144-3 146-135 / 147-3 148-135 / 149-3 150-135



Patent location: claim 1

L71 ANSWER 54 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 139:133345 MARPAT

TITLE: Preparation of Phenyl(alkyl)carboxylic acid  
derivatives and analogs and their serum glucose and/or  
serum lipid lowering activity

INVENTOR(S): Giannessi, Fabio; Tassoni, Emanuela; Dell'Uomo,  
Natalina; Brunetti, Tiziana; Tinti, Maria Ornella;  
Arduini, Arduino; Pessotto, Pompeo

PATENT ASSIGNEE(S): Sigma-Tau Industrie Farmaceutiche Riunite S.p.A.,  
Italy

SOURCE: PCT Int. Appl., 97 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003059864	A2	20030724	WO 2003-IT7	20030113
WO 2003059864	A3	20040129		

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CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,  
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,  
PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA,  
UG, US, UZ, VN, YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,  
KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,  
FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF,

BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

CA 2472209	AA	20030724	CA 2003-2472209	20030113
AU 2003209676	A1	20030730	AU 2003-209676	20030113
EP 1465858	A2	20041013	EP 2003-729544	20030113

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BR 2003006880	A	20041221	BR 2003-6880	20030113
CN 1617854	A	20050518	CN 2003-802295	20030113
JP 2005514452	T2	20050519	JP 2003-559969	20030113
US 2005032787	A1	20050210	US 2004-501135	20040713

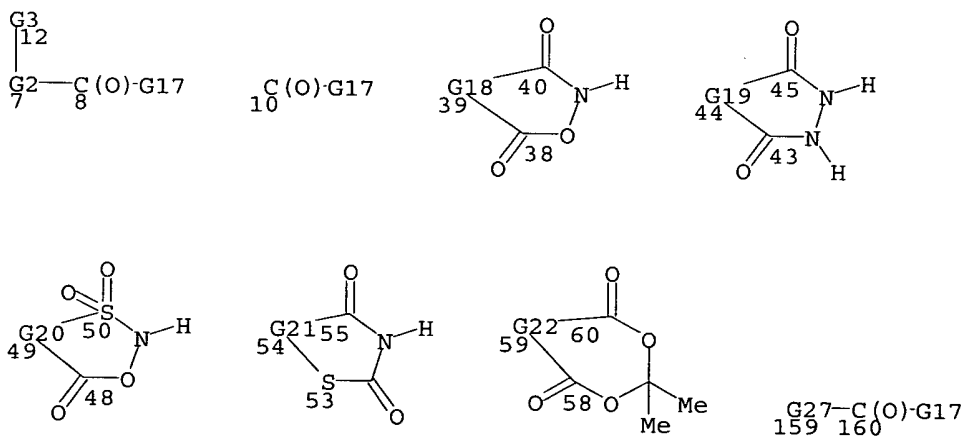
PRIORITY APPLN. INFO.: IT 2002-RM16 20020115  
WO 2003-IT7 20030113

AB Title compds. I [A = CH; alkanylidene with 2-4 C atoms, etc.; Ar = mono/bicyclic (hetero)aryl; f, h = 0-1; m = 0-3; n = 0-1 and if n = 0, R1 = absent and COY is directly bound to benzene; Q, Z = NH, O, S, NHCO, etc.; Y = OH, alkoxy, amino] are prepared For instance, 3-hydroxybenzaldehyde is condensed with dimethylmalonate (HOAc, piperidine, 5 h) and the product reduced (MeOH, H2-10% Pd/C @ 50 psi, 18 h) to give II. II is capable of increasing glucose consumption in 3T3 - L1 cells to a similar extent to that achieved by rosiglitazone. I are serum glucose and serum lipid lowering agents and are useful for the prophylaxis and treatment of diabetes, particularly type 2, and its complications, Syndrome X, the various forms of insulin resistance, and hyperlipidemias, and present reduced side effects, and, particularly, reduced or no liver toxicity.

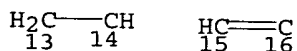
## MSTR 1

G29-G12-G1

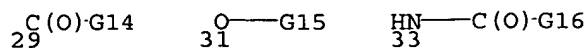
G1 = 7 / 10 / 39 / 44 / 49 / 54 / 59 / 159



G2 = CH / carbon chain <containing 1-4 C, 0 or more double bonds, no triple bonds> / 13-5 14-12 14-8 / 15-5 16-12 16-8



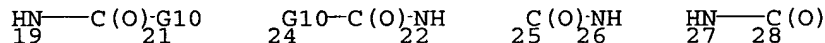
G3 = H / 29 / SO<sub>3</sub>H / OH / 31 / CN / NH / 33 /  
(Specifically claimed: CO<sub>2</sub>Me)



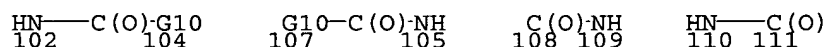
G4 = aryl <containing 6-10 C, mono- or bicyclic>  
(opt. substd. by 1 or more G5) /  
heteroaryl <containing up to 10 atoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms),  
mono- or bicyclic> (opt. substd. by 1 or more G5) /  
(Specifically claimed: 157)

p-C<sub>6</sub>H<sub>4</sub>Cl  
157

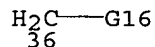
G5 = halo / NO<sub>2</sub> / OH / alkyl <containing 1-4 C>  
(opt. substd. by 1 or more halo) /  
alkoxy <containing 1-4 C> (opt. substd. by 1 or more halo)  
G6 = alkylene <containing 1-3 C>  
G7 = aryl <1-3 rings> (opt. substd. by 1 or more G5) /  
heteroaryl <containing zero or more N, zero or more O,  
zero or more S (no other heteroatoms), 1-3 rings>  
(opt. substd. by 1 or more G5)  
G8 = (1-3) CH<sub>2</sub>  
G9 = NH / O / S / 19-1 21-3 / 24-1 22-3 / 25-1 26-3 /  
27-1 28-3



G10 = O / S / NH  
G11 = NH / O / S / 102-3 104-5 / 107-3 105-5 /  
108-3 109-5 / 110-3 111-5

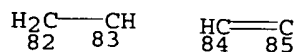


G12 = phenylene (opt. substd. by (1) G13)  
G13 = alkyl <containing 1-4 C>  
(opt. substd. by 1 or more halo) / OH /  
alkoxy <containing 1-4 C> (opt. substd. by 1 or more halo)  
G14 = OH / NH<sub>2</sub> / alkoxy <containing 1-4 C>  
G15 = alkyl <containing 1-4 C>  
(opt. substd. by 1 or more halo) / 36

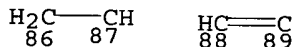


G16 = aryl <containing 6-10 C>  
(opt. substd. by 1 or more G5) /  
heteroaryl <containing up to 10 atoms>  
(opt. substd. by 1 or more G5)  
G17 = OH / alkoxy <containing 1-4 C> / NH<sub>2</sub> /  
(Specifically claimed: OMe)

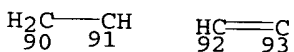
G18 = CH / carbon chain <containing 1-4 C,  
0 or more double bonds, no triple bonds> /  
82-5 83-40 83-38 / 84-5 85-40 85-38



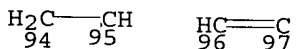
G19 = CH / carbon chain <containing 1-4 C,  
0 or more double bonds, no triple bonds> /  
86-5 87-45 87-43 / 88-5 89-45 89-43



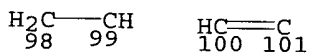
G20 = CH / carbon chain <containing 1-4 C,  
0 or more double bonds, no triple bonds> /  
90-5 91-50 91-48 / 92-5 93-50 93-48



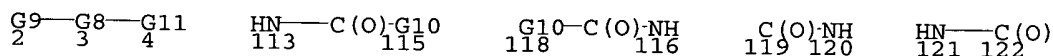
G21 = CH / carbon chain <containing 1-4 C,  
0 or more double bonds, no triple bonds> /  
94-5 95-55 95-53 / 96-5 97-55 97-53



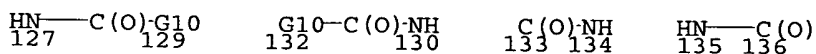
G22 = CH / carbon chain <containing 1-4 C,  
0 or more double bonds, no triple bonds> /  
98-5 99-60 99-58 / 100-5 101-60 101-58



G23 = 2-1 4-5 / bond / **G8** / O / NH / S / 113-1 115-5 /  
118-1 116-5 / 119-1 120-5 / 121-1 122-5 / **123-1 124-5** /  
**125-1 126-5**



G24 = O / NH / S / 127-123 129-5 / 132-123 130-5 /  
133-123 134-5 / 135-123 136-5





G25 = O / NH / S / 137-1 139-126 / 142-1 140-126 /  
143-1 144-126 / 145-1 146-126

HN—C(O)-G10      G10—C(O)-NH      C(O)-NH      HN—C(O)  
137      139      142      140      143 144      145 146

G26 = G8 / O / NH / S / 147-125 149-5 / 152-125 150-5 /  
153-125 154-5 / 155-125 156-5

HN—C(O)-G10      G10—C(O)-NH      C(O)-NH      HN—C(O)  
147      149      152      150      153 154      155 156

G27 = C(O) / 162-5 163-160 / 164

H<sub>2</sub>C—C(O)      G28=O  
162 163      164

G28 = carbon chain <containing 1-4 C,  
0 or more double bonds, no triple bonds>

G29 = 112 / 166

G4—G23      G30—G6—G7  
1      112      166 17

G30 = bond / O / S / NH / 168-5 170-17 / 173-5 171-17 /  
174-5 175-17 / 176-5 177-17 / R

HN—C(O)-G10      G10—C(O)-NH      C(O)-NH      HN—C(O)  
168      170      173      171      174 175      176 177

Patent location: claim 1

Note: or pharmacologically acceptable salts, and  
tautomers.

Stereochemistry: or racemic mixtures, individual enantiomers,  
geometric isomers or stereoisomers

L71 ANSWER 55 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 139:69258 MARPAT

TITLE: Preparation of pyrazolopyridine derivatives as Edg-5  
receptor antagonists

INVENTOR(S): Ozawa, Koichi; Hirata, Kazuyuki; Yamamoto, Kazuhiko

PATENT ASSIGNEE(S): Japan Tobacco Inc., Japan

SOURCE: PCT Int. Appl., 198 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003051876	A1	20030626	WO 2002-JP13059	20021213
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,				

CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
 GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS,  
 LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL,  
 PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA,  
 UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,  
 KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,  
 FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ,  
 CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2002354476

A1 20030630

AU 2002-354476 20021213

PRIORITY APPLN. INFO.:

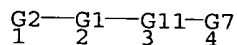
JP 2001-382398 20011214

JP 2002-225343 20020801

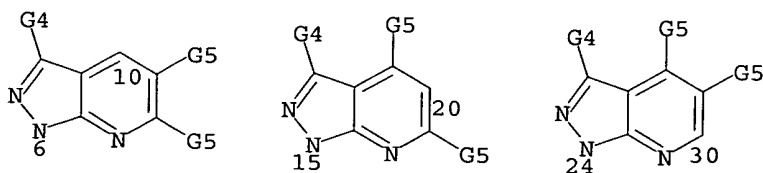
WO 2002-JP13059 20021213

AB The title pyrazolopyridine derivs. with general formula of I [wherein R1 = H, (halo)alkyl, (un)substituted aryl, aralkyl, or COR7; R7 = alkyl, alkoxy, (un)substituted aryl, aralkyl, aryloxy, or aralkyloxy; R2 = H, (un)substituted alkyl, or aryl; R3 = H, alkoxy, alkoxy-CO, haloalkyl, cycloalkyl, (un)substituted alkyl, or aryl; R4 = H or (un)substituted alkyl; R5 = H, (cyclo)alkyl, alkoxy, alkoxy-CO, carboxy, alkynyl, halo, CN, NO2, haloalkyl, alkylamino, dialkylamino, acyl, OH, (un)substituted aryloxy, aralkyloxy, aryl, aralkyl, heterocyclyl, alkoxyalkyl, or CONHR8; R8 = (un)substituted aryl or aralkyl; R6 = H, (cyclo)alkyl, alkoxy, alkoxy-CO, carboxy, alkynyl, halo(alkyl), CN, NO2, alkylamino, dialkylamino, acyl, OH, (un)substituted aryloxy, aralkyloxy, aryl, aralkyl, heterocyclyl, alkoxyalkyl, or CONHR8; X = O, -N=, -CH=, (un)substituted -NH-, or -CH2-; Y = =N-, -CH2-, =CH-, -O-, -CO-, a bond, or (un)substituted -NH-; Z = CO, CS, CH2, O, or a bond; W = O, CO, CONH, CH2, NHCH2, a bond, or (un)substituted -NH-; ring A = aryl, heterocyclyl, or cycloalkyl] and prodrugs and pharmaceutically acceptable salts thereof are prepared. For example, the compound II was prepared in a multi-step synthesis. II showed IC50 of 0.014  $\mu$ M against hAGR16 in cow. I act specifically on endothelial differentiation sphingolipid G-protein-coupled (Edg) 5 which is a sphingosine-1-phosphate receptor and, therefore, are useful as remedies for fibrosis, arteriosclerosis, coronary vasospasm, asthma, nephritis, nerve disorder, peripheral nerve disorder, rheumatoid arthritis, systemic lupus erythematosus (SLE), cancer, etc.

## MSTR 1



G1 = 6-1 10-3 / 15-1 20-3 / 24-1 30-3



G2 = H / alkyl <containing 1-6 C>  
 (opt. substd. by 1 or more G6) / aryl (opt. substd.) /  
 alkyl <containing 1-8 C> (substd. by 1 or more Ph (opt.  
 substd.)) / 32

<sup>C(O)</sup>G3  
32

- G3 = alkyl <containing 1-8 C> / aryl (opt. substd.) /  
alkyl <containing 1-8 C> (substd. by Ph (opt. substd.)) /  
alkoxy <containing 1-6 C> / aryloxy (opt. substd.) /  
alkoxy <containing 1-4 C> (substd. by Ph (opt. substd.))
- G4 = H / alkyl <containing 1-6 C> (opt. substd.) /  
aryl (opt. substd.)
- G5 = H / alkyl <containing 1-6 C> (opt. substd.) /  
alkyl <containing 1-6 C> (substd. by 1 or more G6) /  
alkoxy <containing 1-6 C> / alkoxycarbonyl <containing 1-6 C>  
/ cycloalkyl <containing 3-7 C> / aryl (opt. substd.)
- G6 = F / Cl / Br / I
- G7 = aryl (opt. substd. by (up to 2) G8) /  
**heterocycle <containing 1-3 heteroatoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms),  
mono- or bicyclic, (up to 1) 5-membered,  
0 or more 6-membered rings only>**  
(opt. substd. by (up to 2) G8) /  
cycloalkyl <containing 3-7 C> (opt. substd. by 1 or more G8)  
/ (Specifically claimed: Ph / pyridyl / thienyl)
- G8 = cycloalkyl <containing 3-7 C> /  
alkyl <containing 1-6 C> (opt. substd. by 1 or more G6) /  
alkoxy <containing 1-6 C> / alkoxycarbonyl <containing 1-6 C>  
/ CO<sub>2</sub>H / alkynyl <containing 2-6 C> / F / Cl / Br / I / CN /  
NO<sub>2</sub> / alkylamino <containing 1-8 C> /  
dialkylamino <each alkyl containing 1-8 C> / CHO /  
alkylcarbonyl <containing 1-5 C> /  
arylcabonyl (opt. substd.) / OH / aryloxy (opt. substd.) /  
alkoxy <containing 1-4 C> (substd. by Ph (opt. substd.)) /  
aryl (opt. substd. by 1 or more G38) /  
alkyl <containing 1-8 C> (substd. by Ph (opt. substd.)) /  
heterocycle <containing 1-3 heteroatoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms),  
mono- or polycyclic, (up to 1) 5-membered,  
0 or more 6-membered rings only>  
(opt. substd. by 1 or more G38) /  
alkyl <containing 1-6 C> (substd. by alkoxy <containing 1-6  
C>) / 43

<sup>C(O)</sup>NH—G10  
43

- G10 = aryl (opt. substd.) / alkyl <containing 1-8 C>  
(substd. by Ph (opt. substd.))
- G11 = NH / 46 / O / 51 / 53-2 54-4 / 55-2 56-4 /  
66-2 67-4 / 70-2 71-4 / 81-2 83-4 /  
84-2 86-4 /  
87-2 89-4 / 90-2 92-4 / 105-2 107-4 / 108-2  
111-4 /  
112-2 115-4 / 154-2 156-4 / 157-2 160-4

N—G12  
46

HC—G14  
51

G16—G17  
53 54

G15—G15  
55 56

G16—G20  
66 67

G16—G22  
70 71

$\begin{matrix} \text{G16-G17-G20} \\ 81 \quad \quad 83 \end{matrix}$ 
 $\begin{matrix} \text{G15-G15-G20} \\ 84 \quad \quad 86 \end{matrix}$ 
 $\begin{matrix} \text{G16-G34-G24} \\ 87 \quad 88 \quad 89 \end{matrix}$ 
 $\begin{matrix} \text{G15-G15-G25} \\ 90 \quad 91 \quad 92 \end{matrix}$

$\begin{matrix} \text{G16-G20-G26} \\ 105 \quad 106 \quad 107 \end{matrix}$ 
 $\begin{matrix} \text{G16-G34-G20-G27} \\ 108 \quad \quad 110 \quad 111 \end{matrix}$ 
 $\begin{matrix} \text{G15-G15-G20-G28} \\ 112 \quad \quad 114 \quad 115 \end{matrix}$ 
 $\begin{matrix} \text{G16-G35-G36} \\ 154 \quad 155 \quad 156 \end{matrix}$

$\begin{matrix} \text{G16-G35-G20-G37} \\ 157 \quad \quad 159 \quad 160 \end{matrix}$

G12 = alkyl <containing 1-8 C> / 48

$\begin{matrix} \text{HN} \\ 48 \end{matrix} \text{---C(O)-G13}$

G13 = OH / alkoxy <containing 1-6 C>

G14 = H / alkyl <containing 1-8 C>

G15 = CH / N

G16 = NH / 57 / O / 59

$\begin{matrix} \text{N} \\ 57 \end{matrix} \text{---G12}$ 
 $\begin{matrix} \text{HC} \\ 59 \end{matrix} \text{---G14}$

G17 = NH / 61 / CH2 / O / C(O)

$\begin{matrix} \text{N} \\ 61 \end{matrix} \text{---G18}$

G18 = alkyl <containing 1-8 C> /  
 alkyl <containing 1-8 C> (substd. by Ph (opt. substd.)) /  
 alkoxycarbonyl <containing 1-6 C> / 63

$\begin{matrix} \text{C(O)-G19-G10} \\ 63 \end{matrix}$

G19 = O / NH

G20 = 68 / CH2 / O

$\begin{matrix} \text{C} \\ 68 \end{matrix} \text{=G21}$

G21 = O / S

G22 = NH / 72 / O / C(O) / 77-70 78-4 / CH2 /  
 79-70 80-4

$\begin{matrix} \text{N} \\ 72 \end{matrix} \text{---G23}$ 
 $\begin{matrix} \text{C(O)-NH} \\ 77 \quad 78 \end{matrix}$ 
 $\begin{matrix} \text{HN} \\ 79 \end{matrix} \text{---CH}_2$ 
 $\begin{matrix} \\ 80 \end{matrix}$

G23 = alkyl <containing 1-8 C> / 74 /

alkyl <containing 1-8 C> (substd. by heterocycle <containing 5-10 atoms, 1-3 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), mono- or bicyclic, (up to 1) 5-membered, 0 or more 6-membered rings only>)

$\text{C(=O)O}-\text{G10}$   
74

G24 = NH / 93 / O / C(O) / 95-88 96-4 / CH2 /  
97-88 98-4

$\text{N}-\text{G23}$        $\text{C(=O)NH}$        $\text{HN}-\text{CH}_2$   
93              95 96              97 98

G25 = NH / 99 / O / C(O) / 101-91 102-4 / CH2 /  
103-91 104-4

$\text{N}-\text{G23}$        $\text{C(=O)NH}$        $\text{HN}-\text{CH}_2$   
99              101 102              103 104

G26 = NH / 116 / O / C(O) / 118-106 119-4 / CH2 /  
120-106 121-4

$\text{N}-\text{G23}$        $\text{C(=O)NH}$        $\text{HN}-\text{CH}_2$   
116              118 119              120 121

G27 = NH / 122 / O / C(O) / 124-110 125-4 / CH2 /  
126-110 127-4

$\text{N}-\text{G23}$        $\text{C(=O)NH}$        $\text{HN}-\text{CH}_2$   
122              124 125              126 127

G28 = NH / 128 / O / C(O) / 130-114 131-4 / CH2 /  
132-114 133-4

$\text{N}-\text{G23}$        $\text{C(=O)NH}$        $\text{HN}-\text{CH}_2$   
128              130 131              132 133

G34 = NH / 173 / O

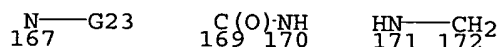
$\text{N}-\text{G18}$   
173

G35 = CH2 / C(O)

G36 = NH / 161 / O / C(O) / 163-155 164-4 / CH2 /  
165-155 166-4

$\text{N}-\text{G23}$        $\text{C(=O)NH}$        $\text{HN}-\text{CH}_2$   
161              163 164              165 166

G37 = NH / 167 / O / C(O) / 169-159 170-4 / CH2 /  
171-159 172-4



G38 = R / (Specifically claimed: F / Cl / Br / I /  
alkyl <containing 1-6 C> (opt. substd. by 1 or more G6) /  
OH / alkoxy <containing 1-6 C> / NO2)

Patent location: claim 1  
Note: substitution is restricted  
Note: or prodrugs or pharmacologically acceptable salts

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 56 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 139:22020 MARPAT

TITLE: Preparation of cyclic amides as apolipoprotein B  
inhibitors

INVENTOR(S): Takasugi, Hisashi; Inoue, Yoshikazu; Terasawa,  
Takeshi; Nagayoshi, Akira; Furukawa, Yoshiro; Mikami,  
Masafumi; Hinoue, Kazumasa; Ohtsubo, Makoto; Fukumoto,  
Daisuke

PATENT ASSIGNEE(S): Fujisawa Pharmaceutical Co., Ltd., Japan; Daiso Co.,  
Ltd.

SOURCE: PCT Int. Appl., 297 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

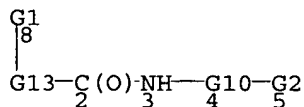
FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

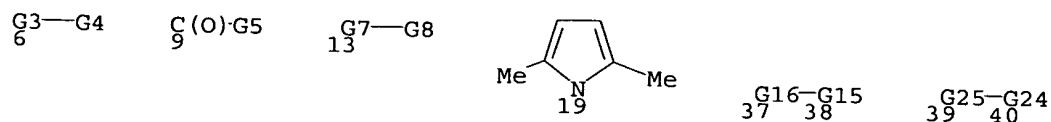
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003045921	A1	20030605	WO 2002-JP11034	20021024
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
WO 2002090347	A1	20021114	WO 2002-JP3529	20020409
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
CA 2468716	AA	20030605	CA 2002-2468716	20021024
AU 2002344567	A1	20030610	AU 2002-344567	20021024
EP 1472226	A1	20041103	EP 2002-777939	20021024
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK			

AB The present invention relates to R1XC(O)NH-A-Z-Y-R2 (1; mostly 2-phenyl-1-cycloalkenecarboxamides and 1,1'-biphenyl-2-carboxamides) wherein R1 is (un)substituted aryl; R2 is (un)substituted aryl, (un)substituted heteroaryl, (un)substituted lower cycloalkyl, (un)substituted aryloxy, (un)substituted arylsulfonyl, vinyl, carbamoyl, protected carboxy or protected amino; ring A is bivalent residue derived from (un)substituted aryl or (un)substituted heteroaryl; X is bivalent residue derived from cycloalkene, naphthalene, unsatd. 5 or 6-membered heteromonocyclic group, each of which is (un)substituted, and substituted benzene; Y is -(A1)m1-(A2)m2- (A1 is -NH-, -N(R3)-, -CO-, -NHCO-, -CONH-, -COCH:CH-, -O-, -CH2O-, -CH2NHCO-, -CH2CONH or -CH(OH)-, wherein R3 is amino protective group, A2 is lower alkylene (un)substituted by aryl, and m1 and m2 = 0 or 1); and Z is direct bond or piperazine, or a salt thereof. Compds. 1 (e.g. 4'-chloro-4-methyl-N-[4-[[2-(2-pyridinyl)ethyl]amino]phenyl]-1,1'-biphenyl-2-carboxamide) inhibit apolipoprotein B (Apo B) secretion and are useful as a medicament for prophylactic and treatment of diseases or conditions resulting from elevated circulating levels of Apo B. For example, 4'-chloro-4-methyl-N-[4-[[2-(2-pyridinyl)ethyl]amino]phenyl]-1,1'-biphenyl-2-carboxamide exhibited 95% inhibition of Apo B secretion at 10<sup>-8</sup> M; also, it lowered cholesterol and triglyceride levels in ddY-mice by 86 and 36%, resp. after 2 h. Example preps. of >400 1 and 187 intermediates are included. For example, 2-isopropyl-N-[4-[[2-(2-pyridinyl)ethyl]amino]phenyl]-4-[4-(trifluoromethyl)phenyl]-5-pyrimidinecarboxamide (366 mg) was prepared from 2-isopropyl-4-[4-(trifluoromethyl)phenyl]-5-pyrimidinecarboxylic acid (495 mg), tert-Bu 4-aminophenyl[2-(2-pyridinyl)ethyl]carbamate (470 mg) and 1-hydroxybenzotriazole hydrate (223 mg) and 1-[3-(dimethylamino)propyl]-3-ethylcarbodiimide hydrochloride (315 mg) in N,N-dimethylformamide (20 mL) followed by CF<sub>3</sub>CO<sub>2</sub>H. The reactant tert-Bu 4-aminophenyl[2-(2-pyridinyl)ethyl]carbamate (15.03 g) was prepared from tert-Bu 4-nitrophenyl[2-(2-pyridinyl)ethyl]carbamate (20.03 g) in ethanol (400 mL) and iron(III) chloride (189 mg) and active charcoal (20 g) followed by hydrazine hydrate (11.67 g).

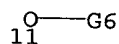
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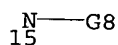
G1 = aryl (opt. substd.) / (Specifically claimed: Ph)  
 G2 = aryl (opt. substd.) / heteroaryl <containing 1 or  
 more heteroatoms, zero or more N, zero or more O,  
 zero or more S> (opt. substd.) /  
 cycloalkyl <containing 3-8 C> (opt. substd.) / 6 / CH=CH2 /  
 9 / 13 / 37 / 39 / (Specifically claimed: pyridyl  
 /  
 pyrimidinyl / pyrazinyl / thiazolyl) / (Example: 19)



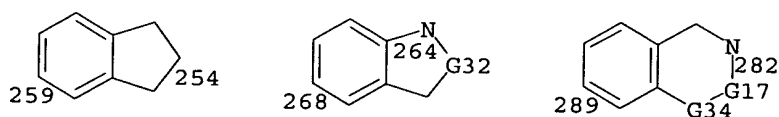
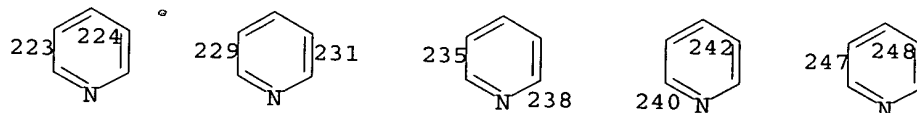
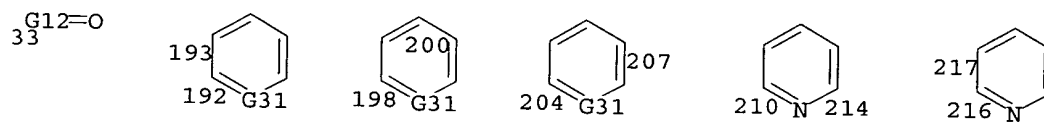
G3 = O / SO<sub>2</sub>  
 G4 = aryl (opt. substd.)  
 G5 = NH<sub>2</sub> / 11



G6 = R <"protecting group"> /  
 (Example: alkyl <containing 1-6 C>  
 (opt. substd. by (1-3) Ph (opt. substd. by NO<sub>2</sub>)))  
 G7 = NH / 15



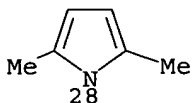
G8 = R <"protecting group"> / (Examples: CHO /  
 alkylcarbonyl <containing 1-6 C> /  
 alkoxy carbonyl <containing 1-6 C>  
 (opt. substd. by (1-3) Ph) / alkyl <containing 1-6 C>  
 (opt. substd. by (1-3) G9) / alkylsulfonyl <containing 1-6 C>  
 (opt. substd. by G9))  
 G9 = aryl / Ph  
 G10 = arylene (opt. substd. by G11) /  
 heteroarylene <containing 1 or more heteroatoms,  
 zero or more N, zero or more O, zero or more S>  
 (opt. substd. by G11) / 33 / (Specifically claimed: 192-3  
 193-5 / 198-3 200-5 / 204-3 207-5 / 210-3 214-5 /  
 217-3 216-5 / 223-3 224-5 / 229-3 231-5 / 235-3 238-5 /  
 242-3 240-5 / 248-3 247-5 / 259-3 254-5 / 268-3 264-5 /  
 289-3 282-5 )





G11 = NO<sub>2</sub> / NH<sub>2</sub> / 24 / (Example: 28)

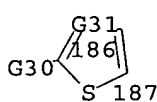
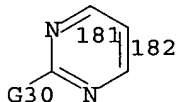
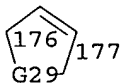
<sup>G7—G8</sup>  
24



G12 = carbocycle <containing 6 or more C, 2 or more double bonds, mono- or polycyclic, 1 or more 6-membered rings> (opt. substd. by G11) / heterocycle <containing 1 or more heteroatoms, zero or more N, zero or more O, zero or more S, 1 or more double bonds, including 5- or 6-membered rings> (opt. substd. by G11)

G13 = cycloalkenylene (opt. substd.) / carbocycle <containing 10 C, aromatic, bonds all normalized, bicyclic, (2) 6-membered rings> (opt. substd.) / heterocycle <containing 5-6 atoms, 1 or more heteroatoms, zero or more N, zero or more O, zero or more S, 5- to 6-membered monocyclic ring> (opt. substd.) / 35 / phenylene (opt. substd.) / (Specifically claimed: 176-8 177-2 / 181-8 182-2 / 186-8 187-2 )

<sup>G14=O</sup>  
35

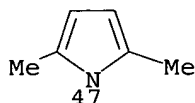


G14 = heterocycle <containing 5-6 atoms, 1 or more heteroatoms, zero or more N, zero or more O, zero or more S, 5- to 6-membered monocyclic ring> (opt. substd.)

G15 = aryl (opt. substd.) / heteroaryl <containing 1 or more heteroatoms, zero or more N, zero or more O, zero or more S> (opt. substd.) / cycloalkyl <containing 3-8 C> (opt. substd.) / 41 / 43 / (Specifically claimed: pyridyl / pyrimidinyl / pyrazinyl / thiazolyl) / (Example: 47)

<sup>G3—G4</sup>  
41

<sup>G7—G8</sup>  
43



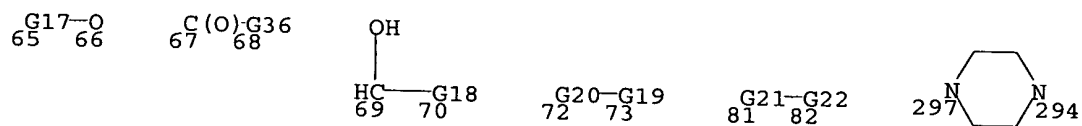
G16 = heterocycle <containing 2 heteroatoms, 2 N, non-aromatic, saturated, 6-membered monocyclic ring> (opt. substd. by alkyl <containing 1-6 C>) / NH / 52 / 67-4 68-38 / 54-4 63-38 / 57-4 59-38 / 60-4 64-38 / 65-4 66-38 / 69-4 70-38 / 72-4 73-38 / alkylene <containing 1-6 C> (opt. substd. by aryl) / 81-4 82-38 / (Specifically claimed: G35 / 297-4 294-38 )

<sup>N—G8</sup>  
52

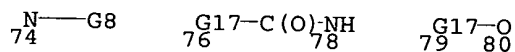
<sup>G17—NH—C(O)—G18</sup>  
54 63

<sup>G17—C(O)—NH</sup>  
57 59

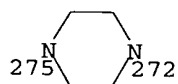
<sup>C(O)—CH=CH—G18</sup>  
60 64



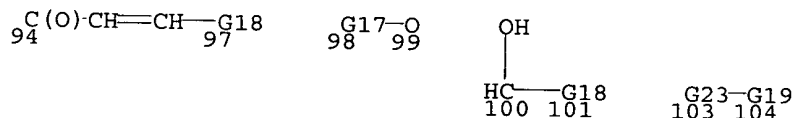
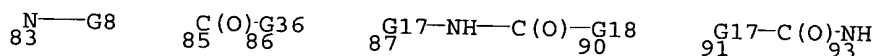
- G17 = bond / CH2  
 G18 = bond / alkylene <containing 1-6 C>  
 (opt. substd. by aryl) / (**Specifically claimed: G35**)  
 G19 = alkylene <containing 1-6 C> (opt. substd. by aryl) /  
 (**Specifically claimed: G35**)  
 G20 = NH / 74 / 76-4 78-73 / 79-4 80-73



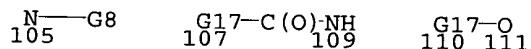
- G21 = heterocycle <containing 2 heteroatoms, 2 N,  
 non-aromatic, saturated, 6-membered monocyclic ring>  
 (opt. substd. by alkyl <containing 1-6 C>) /  
 (**Specifically claimed: 275-4 272-82**)



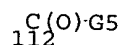
- G22 = NH / 83 / 85-81 86-38 / 87-81 90-38 /  
 91-81 93-38 / 94-81 97-38 / 98-81 99-38 / 100-81 101-38 /  
**103-81 104-38** / alkylene <containing 1-6 C>  
 (opt. substd. by aryl) / (**Specifically claimed: G35**)



- G23 = NH / 105 / 107-81 109-104 / 110-81 111-104

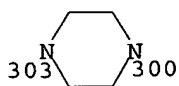
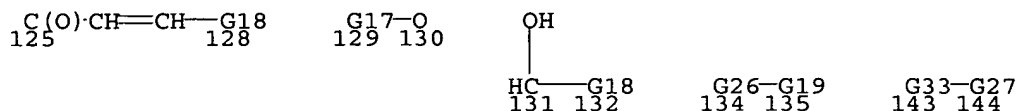
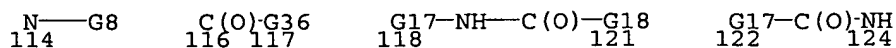


- G24 = CH=CH2 / **112**

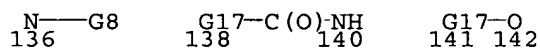


- G25 = heterocycle <containing 2 heteroatoms, 2 N,  
 non-aromatic, saturated, 6-membered monocyclic ring>  
 (opt. substd. by alkyl <containing 1-6 C>) / NH / 114 /  
 116-4 117-40 / **118-4 121-40** / 122-4 124-40 /

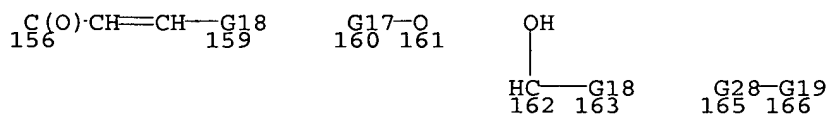
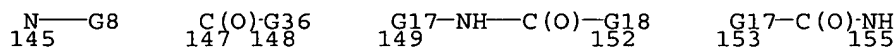
125-4 128-40 / 129-4 130-40 / 131-4 132-40 /  
 134-4 135-40 / alkylene <containing 1-6 C>  
 (opt. substd. by aryl) / 143-4 144-40 /  
 (Specifically claimed: G35 / 303-4 300-40 )



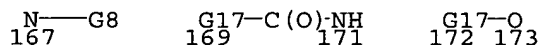
G26 = NH / 136 / 138-4 140-135 / 141-4 142-135



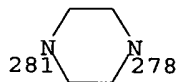
G27 = NH / 145 / 147-143 148-40 / 149-143 152-40 /  
 153-143 155-40 / 156-143 159-40 / 160-143 161-40 /  
 162-143 163-40 / 165-143 166-40 /  
 alkylene <containing 1-6 C> (opt. substd. by aryl) /  
 (Specifically claimed: G35)



G28 = NH / 167 / 169-143 171-166 / 172-143 173-166



G29 = CH<sub>2</sub> / CH<sub>2</sub>CH<sub>2</sub> / CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub> / CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub> / O  
 G30 = H / alkyl <containing 1-6 C>  
 G31 = N / CH  
 G32 = (1-2) CH<sub>2</sub>  
 G33 = heterocycle <containing 2 heteroatoms, 2 N,  
 non-aromatic, saturated, 6-membered monocyclic ring>  
 (opt. substd. by alkyl <containing 1-6 C>) /  
 (Specifically claimed: 281-4 278-144 )



G34 = C(O) / CH2  
 G35 = (1-3) CH2  
 G36 = bond / alkylene <containing 1-6 C>  
 (opt. substd. by aryl) / (Specifically claimed: G35 / CHMe /  
 CMe2 / CHPh)

Patent location: claim 1  
 Note: or salts  
 Note: substitution is restricted

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

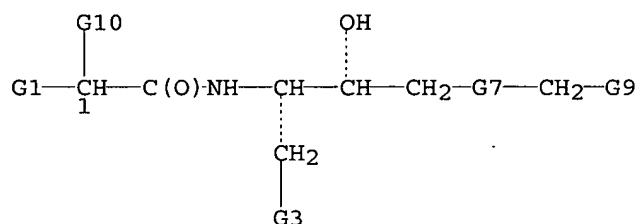
L71 ANSWER 57 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 138:385173 MARPAT  
 TITLE: Preparation of N,N'-substituted-1,3-diamino-2-  
 hydroxypropanes for treating Alzheimer's disease  
 INVENTOR(S): Varghese, John; Maillard, Michel; Jagodzinska,  
 Barbara; Beck, James P.; Gailunas, Andrea; Fang,  
 Larry; Sealy, Jennifer; Tenbrink, Ruth; Freskos, John;  
 Mickelson, John; Samala, Lakshman; Hom, Roy  
 PATENT ASSIGNEE(S): Elan Pharmaceuticals, Inc., USA; Pharmacia & Upjohn  
 Company  
 SOURCE: PCT Int. Appl., 1243 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003040096	A2	20030515	WO 2002-US36072	20021108
WO 2003040096	A3	20040506		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2466284	AA	20030515	CA 2002-2466284	20021108
WO 2003040096	A2	20030515	WO 2002-XA36072	20021108
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

US 2004171881 A1 20040902 US 2002-291318 20021108  
 EP 1453789 A2 20040908 EP 2002-793909 20021108  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK  
 BR 2002014035 A 20050426 BR 2002-14035 20021108  
 JP 2005520791 T2 20050714 JP 2003-542142 20021108  
 CN 1759095 A 20060412 CN 2002-826786 20021108  
 ZA 2004003578 A 20051010 ZA 2004-3578 20040511  
 NO 2004002359 A 20040806 NO 2004-2359 20040607  
 PRIORITY APPLN. INFO.: US 2001-337122P 20011108  
 US 2001-344086P 20011228  
 US 2002-345635P 20020103  
 WO 2002-US36072 20021108

AB The title compds. [I; R1 = (un)substituted alkyl, alkenyl, alkynyl, etc.; R2 = H, alkyl, haloalkyl, alkenyl, etc.; R3 = H, alkyl, haloalkyl, alkenyl, etc.; or R2 and R3 are taken together with the carbon to which they are attached to form a carbocycle of 3-7 carbon atoms, optionally where one carbon atom is replaced by a heteroatom selected from the group consisting of O, S, SO2, (un)substituted NH; R4 = alkyl, haloalkyl, hydroxyalkyl, etc.; R5 = R6X (wherein X = CO, SO2, (un)substituted CH2; R6 = (un)substituted Ph, naphthyl, indanyl, etc.); R25 = H, alkyl, alkoxy, etc.] which have activity as inhibitors of  $\beta$ -secretase and are therefore useful in treating a variety of disorders such as Alzheimer's disease, were prepared E.g., a multi-step synthesis of (1S,2R)-II, starting from (2S)-2-[(tert-butoxycarbonyl)amino]-3-(3,5-difluorophenyl)propanoic acid, was given. The compds. I showed IC50 of < 20  $\mu$ M in cell free inhibition assay utilizing a synthetic APP substrate. This is a Part 1 of 1-2 series.

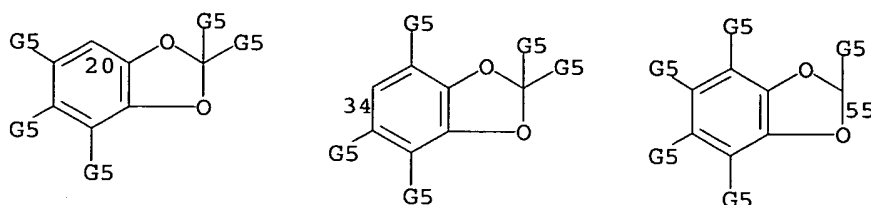
## MSTR 5



G1 = 171 / alkyl <containing 1 or more C>  
 (opt. substd. by 1 or more G13)

G11-G12  
 171 172

G2 = heterocycle <containing 5 or more atoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), 1-3 rings,  
 including 5-, 6- or 7-membered rings> (opt. substd.) /  
 carbocycle <containing 3 or more C, 0 or more double bonds,  
 1-3 rings> (opt. substd.)  
 G3 = Ph (opt. substd. by 1 or more G4) /  
 cycloalkyl <containing 3-8 C> (opt. substd.) /  
 SPh (opt. substd.) / 20 / 34 / 55 / thienyl (opt. substd.) /  
 alkyl <containing 1 or more C> (opt. substd.) /  
 furyl (opt. substd.)



G4 = alkyl <containing 1-4 C> /  
 alkoxy <containing 1-4 C> / OH /  
 alkyl <containing 1-6 C> (substd. by OH) / halo /  
 alkyl <containing 1-6 C> (substd. by 1 or more halo) /  
 alkoxy <containing 1-6 C> (substd. by 1 or more halo) /  
 alkoxy <containing 1-6 C> (substd. by Ph) /  
 alkoxycarbonyl <containing 1-6 C> /  
 alkyl <containing 1-4 C> (substd. by cycloalkyl <containing  
 5-6 C>) / CN / 63

<sup>G6</sup>  
 63—CN

G5 = H / R  
 G6 = (1-4) CH<sub>2</sub>  
 G7 = NH (opt. substd.)  
 G9 = Ph (opt. substd. by G21) / 138 / 140 / CN / CONH<sub>2</sub>

<sup>C(O)-G22</sup>  
 138 <sup>G24-G14</sup>  
 140

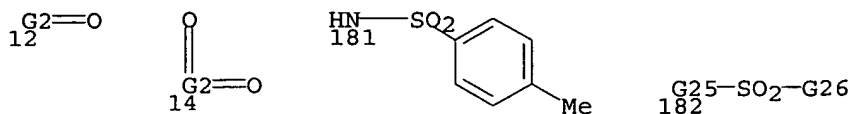
G10 = H / R  
 G11 = bond / R <"linking group"> /  
 (Specifically claimed: C(O) / 187-1 188-172 /  
 190-1 189-172 / SO<sub>2</sub> / O / 191-1 192-172 / 194-1 193-172 /  
 195-1 197-172 / S / 198-1 200-172 / NH / 201)

<sup>G29-G25</sup> <sup>G25-G29</sup> <sup>G28-G30</sup> <sup>G31-G28</sup> <sup>G28-G32-G28</sup>  
 187 188 190 189 191 192 194 193 195 197

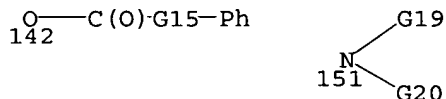
<sup>HN—C(O)-NH</sup> <sup>N—CH<sub>2</sub>-Ph</sup>  
 198 200 201

G12 = cyclohexyl (opt. substd.) /  
 cyclopentyl (opt. substd.) / alkyl <containing 1 or more C>  
 (opt. substd.) / Ph (opt. substd.) / NH<sub>2</sub> /  
 alkylamino <containing 1 or more C> (opt. substd.) /  
 dialkylamino <each alkyl containing 1 or more C>  
 (opt. substd.) / heterocycle <containing 5 or more atoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), 1-3 rings,  
 including 5-, 6- or 7-membered rings> (opt. substd.) /  
 carbocycle <containing 3 or more C, 0 or more double bonds,  
 1-3 rings> (opt. substd.) / 12 / 14 /  
 alkylsulfonyl <containing 1 or more C> (opt. substd.) /

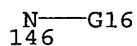
cycloalkyl <containing 3-6 C> (substd. by alkyl <containing 1 or more C> (opt. substd.)) / alkoxycarbonyl <containing 1 or more C> (opt. substd.) / 181 / 182



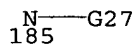
G13 = R / OH  
 G14 = 142 / Ph / SO<sub>2</sub>NH<sub>2</sub> / alkylaminosulfonyl <containing 1-6 C> / dialkylaminosulfonyl <each alkyl containing 1-6 C> / cycloalkyl <containing 3-7 C> / alkoxycarbonyl <containing 1-4 C> / H / NH<sub>2</sub> / alkylamino <containing 1-6 C> / dialkylamino <each alkyl containing 1-6 C> / 151 / alkylcarbonylamino <containing 1-4 C>



G15 = NH / 146



G16 = alkyl <containing 1-4 C>  
 G19 = alkyl <containing 1-6 C>  
 G20 = Ph / CH<sub>2</sub>Ph  
 G21 = R / pyridyl / Ph / benzothienyl / thienyl / furyl / pyrimidinyl / isoxazolyl  
 G22 = pyridyl  
 G24 = alkylene <containing 1 or more C> (opt. substd.)  
 G25 = NH / 185



G26 = NH<sub>2</sub> / alkylamino <containing 1-6 C> / dialkylamino <each alkyl containing 1-6 C>  
 G27 = alkyl <containing 1-6 C>  
 G28 = alkylene <containing 1-4 C, unbranched>  
 G29 = C(O) / SO<sub>2</sub>  
 G30 = O / 204-191 205-172 / 207-191 206-172



G31 = O / 208-1 209-193 / 211-1 210-193



G32 = 0 / 212-195 213-197 / 215-195 214-197

$$\begin{array}{ccc} \text{HN} & \text{SO}_2 & \text{O}_2\text{S} & \text{NH} \\ 212 & 213 & 215 & 214 \end{array}$$

Patent location: claim 35  
 Note: or pharmaceutically acceptable salts  
 Note: additional substitution also claimed  
 Note: substitution is restricted

L71 ANSWER 58 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 138:283414 MARPAT  
 TITLE: Azo compounds for type I phototherapy  
 INVENTOR(S): Rajagopalan, Raghavan; Cantrell, Gary L.; Bugaj, Joseph E.; Achilefu, Samuel I.; Dorshow, Richard B.  
 PATENT ASSIGNEE(S): Mallinckrodt Inc., USA  
 SOURCE: U.S. Pat. Appl. Publ., 10 pp., Cont.-in-part of U.S. Ser. No. 6,485,704.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

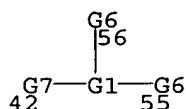
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003072763	A1	20030417	US 2002-272123	20021015
US 6747151	B2	20040608		
US 2002164287	A1	20021107	US 2001-849163	20010504
US 6485704	B2	20021126		
CA 2502211	AA	20040429	CA 2003-2502211	20031014
WO 2004035536	A2	20040429	WO 2003-US32699	20031014
WO 2004035536	A3	20040729		
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RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003279973	A1	20040504	AU 2003-279973	20031014
EP 1551461	A2	20050713	EP 2003-773279	20031014
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2006503096	T2	20060126	JP 2004-545327	20031014
PRIORITY APPLN. INFO.:				
			US 2001-849163	20010504
			US 2002-272123	20021015
			WO 2003-US32699	20031014

AB Novel azo compds. and their bioconjugates for phototherapy and/or photodiagnosis of tumors and other lesions are described. The azo derivs. of the present invention are designed to absorb at the low-energy UV, visible, or near-IR (NIR) region of the electromagnetic spectrum. The phototherapeutic effect is caused by direct interaction of free radicals, the reactive intermediate produced upon photoexcitation of the azo compound,

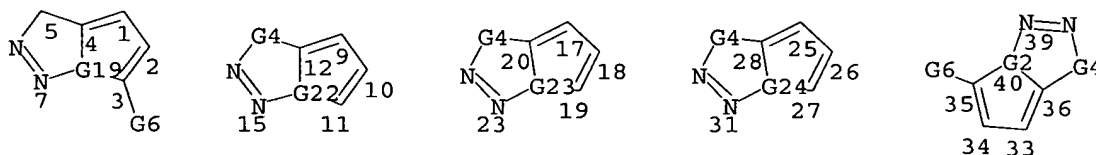


with the tissue of interest. Cyclic azoxanthenes, azoacridines, and azocoumarins conjugated to various biomols. such as ligands for somatostatin, heat-sensitive bacterioendotoxin, neurotensin, bombesin, cholecystokinin, steroid, and carbohydrate receptors are examples of such photosensitizers. The biomol. may be an antibody, peptide, peptidomimetic, carbohydrate, glycomimetic, drug, hormone, or nucleic acid.

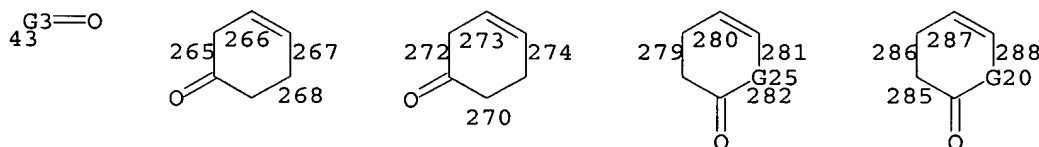
## MSTR 1



G1 = 5-42 1-56 2-55 / 9-42 10-56 11-55 /  
18-42 17-56 19-55 / 27-42 25-56 26-55 / 40-42 33-56 34-55

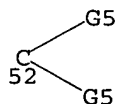


G2 = any ring <containing zero or more heteroatoms,  
zero or more N, zero or more O, zero or more S,  
1 or more double bonds, mono- or bicyclic,  
(1-2) 6-membered rings only> (opt. substd. by 1 or more G16)  
/ 43 / (Specifically claimed: 265-39 266-36 267-35 268-42 /  
272-39 273-36 274-35 270-42 / 279-39 280-36 281-35 282-42 /  
286-39 287-36 288-35 285-42 )

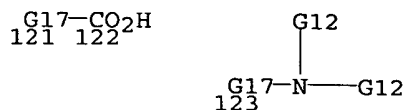


G3 = any ring <containing zero or more heteroatoms,  
zero or more N, zero or more O, zero or more S,  
1 or more double bonds, mono- or bicyclic,  
(1-2) 6-membered rings only> (opt. substd.)

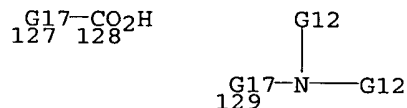
G4 = bond / 52



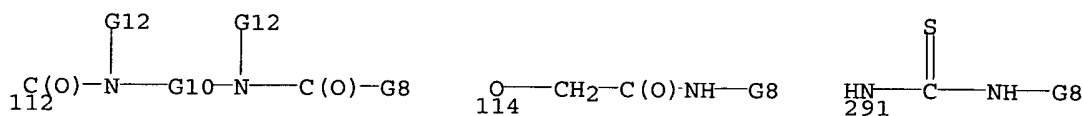
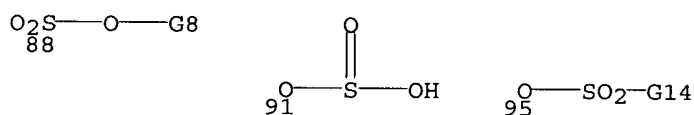
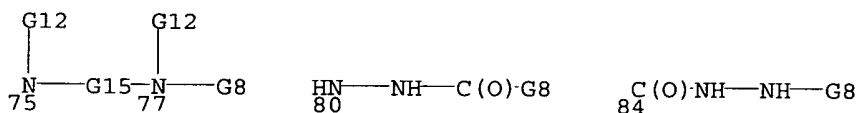
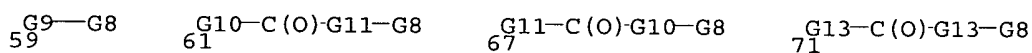
G5 = H / alkyl <containing 1-10 C>  
(opt. substd. by 2 or more OH) / aryl <containing 6-10 C> /  
alkyl <containing 1-9 C> (substd. by alkoxy <containing 1-9  
C>) / 121 / 123



G6 = H / alkyl <containing 1-10 C>  
 (opt. substd. by 2 or more OH) / aryl <containing 6-10 C> /  
 OH / SO<sub>3</sub>H / alkoxy <containing 1-10 C> /  
 alkyl <containing 1-9 C> (substd. by 2 or more alkoxy  
 <containing 1-9 C>) / 127 / 129



G7 = H / R <"antibodies, peptides, peptidomimetics,  
 carbohydrates, glycomimetics, drugs,  
 hormones or nucleic acids"> / 59 / 61 / 67 / 71 / 291 / 75 /  
 80 / 84 / 88 / 91 / 95 / 112 / (Example: 114)

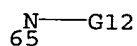


G8 = H / R <"antibodies, peptides, peptidomimetics,  
 carbohydrates, glycomimetics, drugs,  
 hormones or nucleic acids">

G9 = (1-10) CH<sub>2</sub>

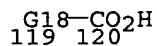
G10 = (0-10) CH<sub>2</sub>

G11 = 65 / O

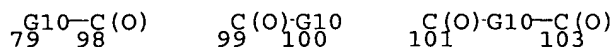


G12 = H / alkyl <containing 1-10 C>

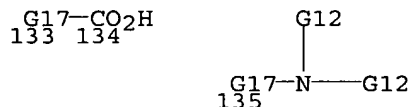
(opt. substd. by 2 or more OH) / aryl <containing 6-10 C> /  
CO<sub>2</sub>H / 119



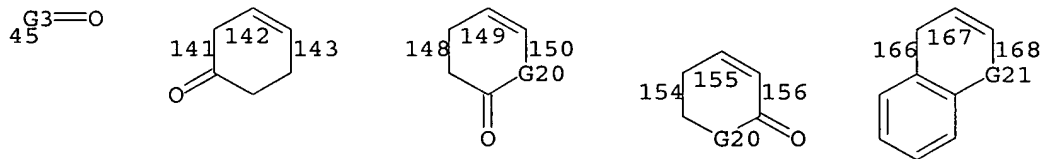
- G13 = O / NH  
G14 = R <"antibodies, peptides, peptidomimetics,  
carbohydrates, glycomimetics, drugs,  
hormones or nucleic acids">  
G15 = 79-75 98-77 / 99-75 100-77 / 101-75 103-77



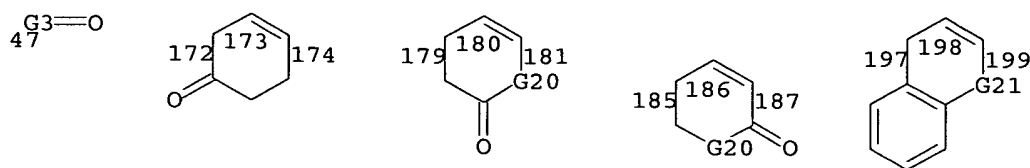
- G16 = alkyl <containing 1-10 C>  
(opt. substd. by 2 or more OH) / aryl <containing 6-10 C> /  
alkyl <containing 1-9 C> (substd. by alkoxy <containing 1-9  
C>) / 133 / 135



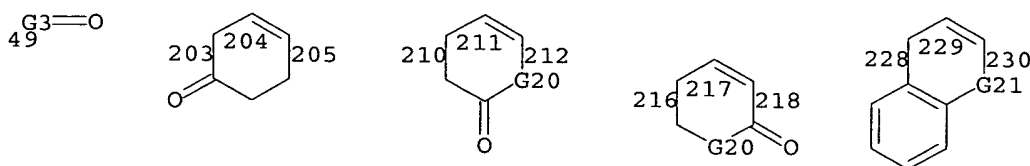
- G17 = bond / alkylene <containing 1-10 C, unbranched>  
G18 = alkylene <containing 1-10 C, unbranched>  
G19 = any ring <containing zero or more heteroatoms,  
zero or more N, zero or more O, zero or more S,  
1 or more double bonds, mono- or bicyclic,  
(1-2) 6-membered rings only> (opt. substd. by 1 or more G16)  
/ 45 / (Specifically claimed: 141-7 142-4 143-3 /  
148-7 149-4 150-3 / 154-7 155-4 156-3 / 166-7 167-4 168-3 )



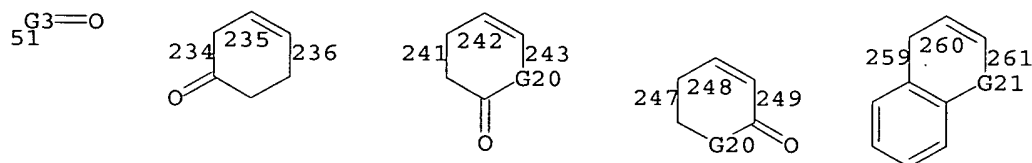
- G20 = CH<sub>2</sub> / O / NH  
G21 = CH<sub>2</sub> / O / NH / C(O)  
G22 = any ring <containing zero or more heteroatoms,  
zero or more N, zero or more O, zero or more S,  
1 or more double bonds, mono- or bicyclic,  
(1-2) 6-membered rings only> (opt. substd. by 1 or more G16)  
/ 47 / (Specifically claimed: 172-15 173-12 174-11 /  
179-15 180-12 181-11 / 185-15 186-12 187-11 /  
197-15 198-12 199-11 )



G23 = any ring <containing zero or more heteroatoms,  
zero or more N, zero or more O, zero or more S,  
1 or more double bonds, mono- or bicyclic,  
(1-2) 6-membered rings only> (opt. substd. by 1 or more G16)  
/ 49 / (Specifically claimed: 203-23 204-20 205-19 /  
210-23 211-20 212-19 / 216-23 217-20 218-19 /  
228-23 229-20 230-19 )



G24 = any ring <containing zero or more heteroatoms,  
zero or more N, zero or more O, zero or more S,  
1 or more double bonds, mono- or bicyclic,  
(1-2) 6-membered rings only> (opt. substd. by 1 or more G16)  
/ 51 / (Specifically claimed: 234-31 235-28 236-27 /  
241-31 242-28 243-27 / 247-31 248-28 249-27 /  
259-31 260-28 261-27 )



G25 = CH / N  
Patent location:  
Note:

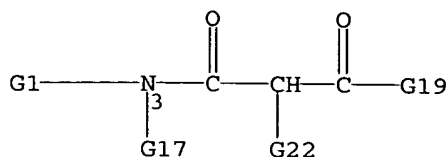
claim 1  
additional ring formation also claimed

REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 59 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 138:205074 MARPAT  
TITLE: Preparation of  $\beta$ -ketoamide compounds as HIV  
integrase inhibitors  
INVENTOR(S): Katoh, Susumu; Miyazaki, Susumu; Habuka, Noriyuki  
PATENT ASSIGNEE(S): Japan Tobacco Inc., Japan  
SOURCE: PCT Int. Appl., 252 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	-----	-----	-----	-----
WO 2003016266	A1	20030227	WO 2002-JP8211	20020812
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2004043416	A2	20040212	JP 2002-236737	20020815
PRIORITY APPLN. INFO.:			JP 2001-247346	20010816
			JP 2001-372066	20011205
			JP 2002-151232	20020524
AB	<p> <math>\beta</math>-Ketoamide compds. represented by the following general formula (I)            or pharmaceutically acceptable salts thereof [the ring A = (un)substituted            C3-10 carbocyclic group, (un)substituted heterocyclyl optionally containing at            least one heteroatoms selected from N, O, and S; X = a bond, C1-6            alkylene, C2-6 alkenylene, (CH<sub>2</sub>)<sub>m</sub>-Z-(CH<sub>2</sub>)<sub>n</sub>-* [wherein Z = O,            (un)substituted NH, CO, SO, SO<sub>2</sub>; m = an integer of 0-4; n = an integer of            1-4; * denotes an ending which is bonded to the N atom of  <math>\beta</math>-ketoamide]; R<sub>1</sub> = C1-10 alkyl, C2-10 alkenyl, Q (wherein Y and the            ring B are same or different groups defined in X and the ring A, resp.);            R<sub>2</sub> = CO<sub>2</sub>R<sub>5</sub>, CONR<sub>6</sub>R<sub>7</sub>, COR<sub>8</sub>, (un)substituted heterocyclyl [wherein R<sub>5</sub>-R<sub>8</sub> =            H, (un)substituted C1-10 alkyl, C3-10 carbocyclyl, or heterocyclyl]; R<sub>3</sub> =            H, halo, C1-4 alkyl, C1-4 alkoxy, COR<sub>9</sub>, O-COR<sub>9</sub>, CONR<sub>10</sub>R<sub>11</sub> [R<sub>9</sub>-R<sub>11</sub> = H,            (un)substituted C1-10 alkyl or C3-10 carbocyclyl]; provided that  <math>\beta</math>-oxo-N,N-bis(phenylmethyl)-2-thiophenepropanamide is excluded] are            prepared and anti-HIV agents containing these compds. I are claimed. Because            of having an HIV integrase inhibitory activity, the above compds. I are            useful as anti-HIV agents to be used in remedies or preventives for AIDS.            Further efficacious anti-HIV agents can be obtained by combining the            compds. with other anti-HIV agents such as a protease inhibitor or a            reverse transcriptase inhibitor. Because of showing a specifically high            inhibitory activity on integrase, these compds. I are usable as safe drugs            with little side effects on the human body. Thus, 3.5 g            N-(3-carboxyphenyl)-N-(3,4-dichlorobenzyl)acetamide (preparation given) was            dissolved in 105 mL THF, cooled in a dry ice-ethanol bath, treated            dropwise with 5.2 mL 1.5 M lithium diisopropylamide/cyclohexane, stirred            for 15 min at the same temperature, treated dropwise with a solution of 2.6 g            Me 2,2,5,5-tetramethylcyclopentyl oxalate in 10 mL THF, stirred for 15 min at            the same temperature, and warmed to room temperature and stirred at room            temperature for 3 h            to give 1.42 g 2,2,5,5-tetramethylcyclopentyl 4-[N-(3-carboxyphenyl)-N-            (3,4-dichlorobenzyl)amino]-2,4-dioxobutanoate (II). II,            2,2,5,5-tetramethylcyclopentyl 4-[N-(3-carboxy-3-methoxyphenyl)-N-(3,4-            dichlorobenzyl)amino]-2,4-dioxobutanoate, and N-(3,4-dichlorobenzyl)-N-(3-            chloro-4-carboxyphenyl)-3-(4-methoxypyrimidin-2-yl)-3-oxopropanamide            showed IC<sub>50</sub> of 0.0092, 0.0041, and 0.0072 <math>\mu</math>M, resp., against            recombinant HIV integrase.         </p>			

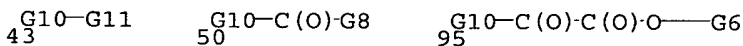
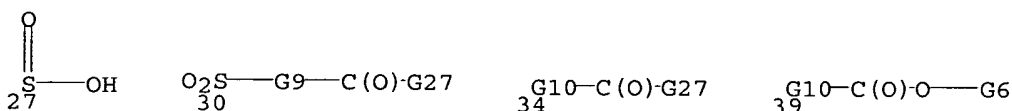
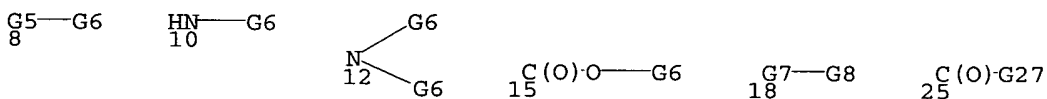
MSTR 1



G1 = carbocycle <containing 3-10 C, 0 or more double bonds> (opt. substd. by (1-5) G2) / heterocycle <containing zero or more N, zero or more O, zero or more S (no other heteroatoms), mono- or polycyclic, 5- or 6-membered rings only> (opt. substd. by (1-5) G2) / 90 / (Specifically claimed: Ph)

$\text{G12-G26}$   
90 91

G2 = F / Cl / Br / I / OH / NO<sub>2</sub> / CN / alkenyl <containing 2-10 C> / alkyl <containing 1-10 C> (opt. substd. by (1-3) G3) / carbocycle <containing 3-10 C, 0 or more double bonds> (opt. substd. by (1-5) G4) / heterocycle <containing zero or more N, zero or more O, zero or more S (no other heteroatoms), mono- or polycyclic, 5- or 6-membered rings only> (opt. substd. by 1 or more G4) / OH / SH / 8 / NH<sub>2</sub> / 10 / 12 / CO<sub>2</sub>H / 15 / 18 / 25 / 27 / 30 / 34 / 39 / 95 / 43 / 50



G3 = F / Cl / Br / I / OH / CO<sub>2</sub>H / alkoxy carbonyl <containing 1-10 C> / alkoxy <containing 1-10 C> / alkoxy <containing 1-4 C> (substd. by alkoxy <containing 1-4 C>) / alkylamino <containing 1-10 C> / dialkylamino <each alkyl containing 1-10 C> / carbocycle <containing 3-10 C, 0 or more double bonds> (opt. substd.) / heterocycle <containing zero or more N, zero or more O, zero or more S (no other heteroatoms), mono- or polycyclic, 5- or 6-membered rings only> (opt. substd.)

G4 = R

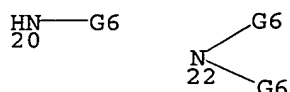
G5 = O / S / SO<sub>2</sub>

G6 = alkyl <containing 1-10 C> (opt. substd.) /

carbocycle <containing 3-10 C, 0 or more double bonds>  
 (opt. substd.) / heterocycle <containing zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 mono- or polycyclic, 5- or 6-membered rings only>  
 (opt. substd.)

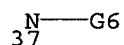
G7 = C(O) / SO<sub>2</sub>

G8 = NH<sub>2</sub> / 20 / 22

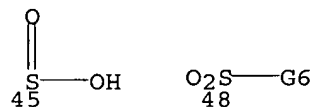


G9 = alkylene <containing 1-6 C>

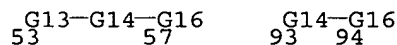
G10 = NH / 37



G11 = 45 / 48

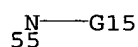


G12 = alkylene <containing 1-6 C> /  
 alkenylene <containing 2-6 C> / 53-91 57-3 / 93-91 94-3



G13 = alkylene <containing 1-4 C, unbranched>

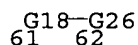
G14 = O / NH / 55 / C(O) / S(O) / SO<sub>2</sub>



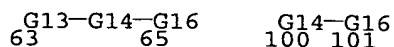
G15 = alkyl <containing 1-4 C>

G16 = alkylene <containing 1-4 C, unbranched>

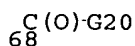
G17 = alkyl <containing 1-10 C> /  
 alkenyl <containing 2-10 C> / 61 /  
 carbocycle <containing 3-10 C, 0 or more double bonds>  
 (opt. substd. by (1-5) G2) / heterocycle <containing zero or  
 more N, zero or more O, zero or more S (no other heteroatoms)  
 , mono- or polycyclic, 5- or 6-membered rings only>  
 (opt. substd. by (1-5) G2) / (Specifically claimed: Ph)



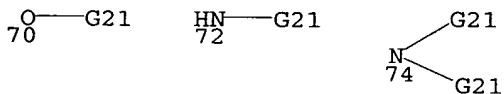
G18 = alkylene <containing 1-6 C> /  
 alkenylene <containing 2-6 C> / 63-62 65-3 / 100-62 101-3



G19 = 68 / heterocycle <containing zero or more N,  
zero or more O, zero or more S (no other heteroatoms),  
attached through 1 or more C, mono- or polycyclic,  
5- or 6-membered rings only> (opt. substd. by (1-5) G4)

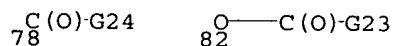


G20 = OH / 70 / NH2 / 72 / 74 / H /  
alkyl <containing 1-10 C> (opt. substd.) /  
carbocycle <containing 3-10 C, 0 or more double bonds>  
(opt. substd.) / heterocycle <containing zero or more N,  
zero or more O, zero or more S (no other heteroatoms),  
mono- or polycyclic, 5- or 6-membered rings only>  
(opt. substd.)



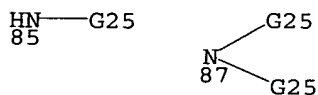
G21 = alkyl <containing 1-10 C> (opt. substd.) /  
carbocycle <containing 3-10 C, 0 or more double bonds>  
(opt. substd.) / heterocycle <containing zero or more N,  
zero or more O, zero or more S (no other heteroatoms),  
mono- or polycyclic, 5- or 6-membered rings only>  
(opt. substd.)

G22 = H / F / Cl / Br / I / alkyl <containing 1-4 C> /  
alkoxy <containing 1-4 C> / 78 / 82



G23 = H / alkyl <containing 1-10 C> (opt. substd.) /  
carbocycle <containing 3-10 C, 0 or more double bonds>  
(opt. substd.)

G24 = H / alkyl <containing 1-10 C>  
(opt. substd. by 1 or more G3) /  
carbocycle <containing 3-10 C, 0 or more double bonds>  
(opt. substd. by (1-5) G4) / NH2 / 85 / 87



G25 = alkyl <containing 1-10 C> (opt. substd.) /  
carbocycle <containing 3-10 C, 0 or more double bonds>  
(opt. substd.)

G26 = carbocycle <containing 3-10 C,  
0 or more double bonds> (opt. substd. by (1-5) G2) /  
heterocycle <containing zero or more N, zero or more O,  
zero or more S (no other heteroatoms), mono- or polycyclic,



5- or 6-membered rings only> (opt. substd. by (1-5) G2)  
 G27 = H / alkyl <containing 1-10 C> (opt. substd.) /  
 carbocycle <containing 3-10 C, 0 or more double bonds>  
 (opt. substd.) / heterocycle <containing zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 mono- or polycyclic, 5- or 6-membered rings only>  
 (opt. substd.)

Patent location: claim 1  
 Note: or pharmaceutically acceptable salts  
 Note: substitution is restricted

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 60 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 138:73178 MARPAT

TITLE: Preparation and pharmaceutical combinations of  
 [(hetero)arylalkyl]piperidinyl amine, amide, or  
 carbamate CCR3 antagonists for treatment of asthma,  
 allergic disease, or inflammation

INVENTOR(S): Bahl, Ash; Perry, Matthew; Springthorpe, Brian

PATENT ASSIGNEE(S): Astrazeneca AB, Swed.

SOURCE: Brit. UK Pat. Appl., 91 pp.

CODEN: BAXXDU

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

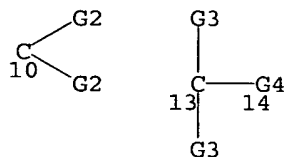
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 2373186	A1	20020918	GB 2001-4534	20010223
PRIORITY APPLN. INFO.:			GB 2001-4534	20010223

AB Title compds. I [wherein Z = CR4R5, CO, or CR4R5Z1; Z1 = alkylene, alkenylene, or CONH; R1 = (un)substituted alkyl, alkenyl, (hetero)cycloalkyl, or (hetero)aryl; Q = O, S, NR9, CO, CONR9, NR9CO, or CH=CH; m = 0-1; n = 0-6 with the proviso that when n = 0; then m = 0; R2 and R3 = independently H or alkyl; or CR2R3 = (alkyl)cycloalkyl; T = NR10, CONR10, NR11CONR10, or CONR10R11; X1-X4 = independently CH2CHR12 or CO; R4 and R5 = independently H or alkyl; R6 = (un)substituted (hetero)aryl; R9-R11 = independently H, alkyl, haloalkyl, hydroxyalkyl, cycloalkyl(alkyl), or phenylalkyl; R12 = independently (cyclo)alkyl or CO; or R12 groups of X1 and X3 or X4, or X2 and X3 or X4 join to form CH2CH2, CH2CH2CH2, CH2OCH2, or CH2SCH2; or pharmaceutically acceptable salts or solvates thereof] were prepared as cysteine-cysteine chemokine receptor 3 (CCR3) antagonists for use in pharmaceutical combinations with a histamine antagonist, steroid, leukotriene modulator, human cytokine,  $\beta$ -agonist, phosphodiesterase inhibitor, or antibody (no data). For example, 1-(3,4-dichlorobenzyl)-4-piperidinamine•2CF3CO2H was condensed with 2-(4-fluorophenyl)acetic acid to give N-[1-(3,4-dichlorobenzyl)-4-piperidinyl]-2-(4-fluorophenyl)acetamide (II). I are useful in combination therapy for the treatment of asthma, rhinitis, and other allergic or inflammatory conditions (no data).

MSTR 1

G32-G26-G28-G1-G31  
 139 9 70 7 8

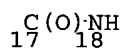
G1 = 10 / C(O) / 13-70 14-8



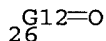
G2 = H / alkyl <containing 1-4 C>

G3 = H / R

G4 = alkylene <containing 1-4 C> / CH<sub>2</sub> /  
alkenylene <containing 2-4 C> / CH=CH / 17-13 18-8



G5 = any ring <containing 3-14 atoms,  
up to 4 heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.) / 26 /  
(Example: Ph (opt. substd.))



G6 = CN / OH / alkoxy <containing 1-6 C> / OMe / OEt /  
alkylthio <containing 1-6 C> / SMe /  
cycloalkyl <containing 3-7 C> / cyclopropyl /  
alkoxycarbonyl <containing 1-6 C> / CO<sub>2</sub>Me /  
Ph (opt. substd. by 1 or more G7)

G7 = F / Cl / Br / I / NO<sub>2</sub> / CN /  
alkyl <containing 1-6 C> (opt. substd. by 1 or more G37) /  
CF<sub>3</sub> / alkyl <containing 1-6 C> (substd. by Ph) / CH<sub>2</sub>Ph /  
alkoxy <containing 1-6 C> (opt. substd. by 1 or more G37) /  
alkylsulfonyl <containing 1-6 C> / CONH<sub>2</sub> / CO<sub>2</sub>H /  
alkoxycarbonyl <containing 1-6 C>

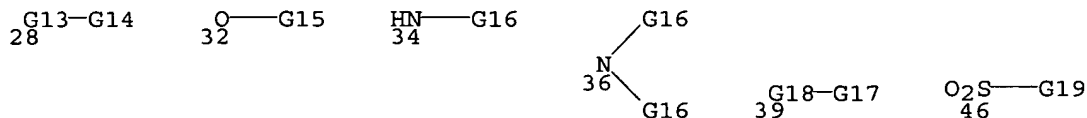
G8 = alkylene <containing 1-12 C>

G9 = alkenylene <containing 2-6 C>

G10 = Ph (opt. substd. by 1 or more G7)

G11 = F / Cl / Br / I / CN / NO<sub>2</sub> / OH /  
alkyl <containing 1-8 C> / alkyl <containing 1-6 C>  
(substd. by OH) / alkyl <containing 1-6 C>  
(substd. by 1 or more G37) / 28 /  
alkylsulfonyl <containing 1-6 C>  
(substd. by aryl <mono- or polycyclic>) /  
alkylsulfonyl <containing 1-6 C>  
(substd. by heterocycle <containing zero or more N,  
zero or more O, zero or more S, mono- or polycyclic,  
including 5- or 6-membered rings>) /  
alkenyl <containing 2-6 C> / alkoxy <containing 1-6 C> /  
alkoxy <containing 1-6 C> (substd. by CO<sub>2</sub>H) /  
alkoxy <containing 1-6 C> (substd. by 1 or more G37) /  
alkoxy <containing 1-6 C> (substd. by OH) /  
alkoxy <containing 1-6 C> (substd. by alkoxycarbonyl  
<containing 1-6 C>) / aryloxy <mono- or polycyclic> / 32 /  
alkylthio <containing 1-6 C> / alkylthio <containing 1-6 C>

(substd. by cycloalkyl <containing 3-7 C>) /  
 alkynylthio <containing 3-6 C> /  
 alkylcarbonylamino <containing 1-6 C>  
 (opt. substd. by 1 or more G37) / SO<sub>3</sub>H / 34 / 36 / 39 / 46 /  
 48 / CO<sub>2</sub>H / alkoxy carbonyl <containing 1-6 C> /  
 aryl <mono- or polycyclic> (opt. substd. by 1 or more G21) /  
 heterocycle <containing zero or more N, zero or more O,  
 zero or more S, mono- or polycyclic,  
 including 5- or 6-membered rings> (opt. substd.)

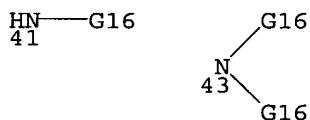


C(O)-G20  
 48

- G12 = any ring <containing 3-14 atoms,  
 up to 4 heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.)
- G13 = alkylene <containing 1-6 C>
- G14 = alkoxy <containing 1-6 C> /  
 cycloalkyl <containing 3-7 C> /  
 alkylthio <containing 1-6 C> / alkylcarbonyloxy <containing  
 1-6 C> / alkylsulfonyl <containing 1-6 C> /  
 aryl <mono- or polycyclic> / heterocycle <containing zero or  
 more N, zero or more O, zero or more S, mono- or polycyclic,  
 including 5- or 6-membered rings> /  
 arylsulfonyl <mono- or polycyclic> / 30

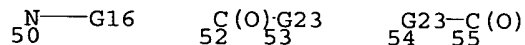
O<sub>2</sub>S-G15  
 30

- G15 = heterocycle <containing zero or more N,  
 zero or more O, zero or more S, mono- or polycyclic,  
 including 5- or 6-membered rings>
- G16 = alkyl <containing 1-6 C>  
 (opt. substd. by 1 or more G37) /  
 alkyl <containing 1-6 C> (substd. by OH) /  
 cycloalkyl <containing 3-7 C> /  
 alkyl <containing 1-4 C> (substd. by cycloalkyl <containing  
 3-7 C>) / alkyl <containing 1-6 C> (substd. by Ph)
- G17 = NH<sub>2</sub> / 41 / 43

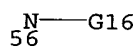


- G18 = C(O) / SO<sub>2</sub>
- G19 = alkyl <containing 1-6 C> /  
 alkyl <containing 1-6 C> (substd. by OH) /  
 cycloalkyl <containing 3-6 C> /  
 alkyl <containing 1-4 C> (substd. by cycloalkyl <containing

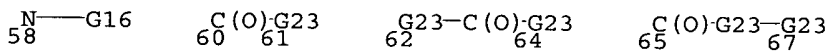
3-7 C>) / alkyl <containing 1-6 C> (opt. substd. by Ph)  
 G20 = alkyl <containing 1-6 C> / Ph (opt. substd.)  
 G21 = F / Cl / Br / I / NO<sub>2</sub> / CN /  
 alkyl <containing 1-6 C> (opt. substd. by 1 or more G37) /  
 alkyl <containing 1-6 C> (substd. by Ph) /  
 alkoxy <containing 1-6 C> (opt. substd. by 1 or more G37) /  
 alkylsulfonyl <containing 1-6 C> / CONH<sub>2</sub> / CO<sub>2</sub>H /  
 alkoxycarbonyl <containing 1-6 C>  
 G22 = O / S / NH / 50 / C(O) / 52-21 53-19 /  
 54-21 55-19 / CH=CH



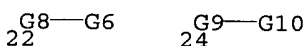
G23 = NH / 56



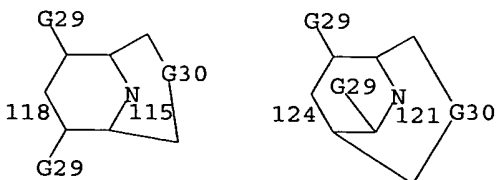
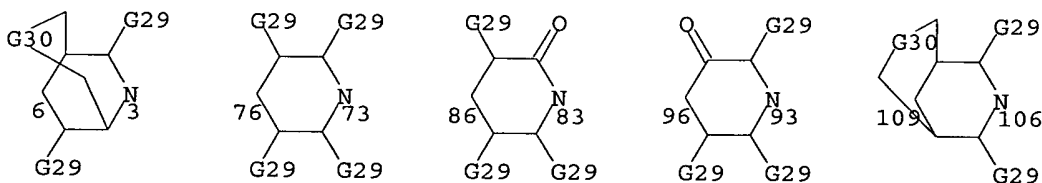
G24 = alkylene <containing 1 or more C> / G25 /  
 cycloalkylene <containing 3-7 C>  
 (opt. substd. by alkyl <containing 1-4 C>)  
 G25 = (1-6) CH<sub>2</sub>  
 G26 = NH / 58 / 60-139 61-70 / 62-139 64-70 /  
 65-139 67-70



G27 = alkyl <containing 1-12 C> / 22 /  
 alkyl <containing 2-6 C> / 24



G28 = 6-9 3-7 / 76-9 73-7 / 86-9 83-7 / 96-9 93-7 /  
 109-9 106-7 / 118-9 115-7 / 124-9 121-7



G29 = H / alkyl <containing 1-4 C> /  
 alkyl <containing 1-4 C> (substd. by cycloalkyl <containing  
 3-7 C>)

G30 = bond / O / S / CH<sub>2</sub>

G31 = aryl <mono- or polycyclic>  
 (opt. substd. by 1 or more G11) /  
 heterocycle <containing zero or more N, zero or more O,  
 zero or more S, mono- or polycyclic,  
 including 5- or 6-membered rings> (opt. substd.) /  
 (Example: Ph (opt. substd.))

G32 = 19 / any ring <containing 3-14 atoms,  
 up to 4 heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.) / 140 /  
 143 / 144 / 148 / 155 / alkyl <containing 1-12 C>  
 (opt. substd.) / alkenyl <containing 2-6 C> (opt. substd.) /  
 (Example: Ph (opt. substd.))

G5—G22—G24      G12=O      G5—G24      G33—G34—G35      G33—G35  
 21      19      140      143      146      144      148

G27—G36—G35  
 157      155

G33 = alkyl <containing 1-12 C> (opt. substd.) /  
 alkenyl <containing 2-6 C> (opt. substd.)

G34 = C(O) / 149-146 150-144 / CH=CH

C(O)—G23  
 149 150

G35 = alkylene <containing 1 or more C> /  
 cycloalkylene <containing 3-7 C>  
 (opt. substd. by alkyl <containing 1-4 C>)

G36 = O / S / NH / 153 / 151-157 152-155

G23—C(O)      N—G16  
 151 152      153

G37 = F / Cl / Br / I

Patent location:

claim 1

Note:

or pharmaceutically acceptable salts, or solvates

L71 ANSWER 61 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 138:24322 MARPAT

TITLE: Preparation of malonamides as cathepsin inhibitors

INVENTOR(S): Patterson, John W.; Zipfel, Sheila

PATENT ASSIGNEE(S): Celera, USA

SOURCE: PCT Int. Appl., 67 pp.  
 CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

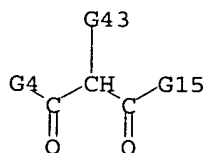
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

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WO 2002098406	A1	20021212	WO 2002-US17922	20020604
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RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2449021	AA	20021212	CA 2002-2449021	20020604
EP 1399146	A1	20040324	EP 2002-739721	20020604
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
BR 2002010172	A	20040622	BR 2002-10172	20020604
CN 1512880	A	20040714	CN 2002-811289	20020604
JP 2005500275	T2	20050106	JP 2003-501445	20020604
NZ 529903	A	20050930	NZ 2002-529903	20020604
US 2004147503	A1	20040729	US 2003-478632	20031124
NO 2003005365	A	20040220	NO 2003-5365	20031202
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PRIORITY APPLN. INFO.:			US 2001-295744P	20010604
			WO 2002-US17922	20020604

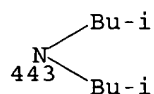
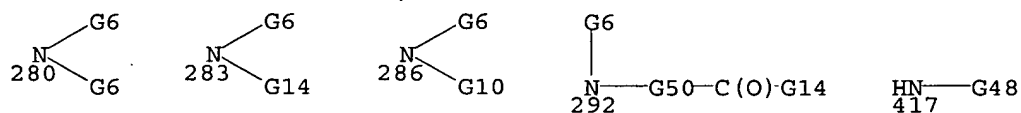
AB The title malonamides I [wherein X1 = substituted amino; R3 = (un)substituted alkyl; R4 = (un)substituted amino; with provisos; and the N-oxide derivs., prodrugs, protected derivs., isomers, mixts. of isomers, pharmaceutically acceptable salts, and solvates thereof] were prepared as selective cathepsin S inhibitors. For example, a solution of aniline in CH<sub>2</sub>Cl<sub>2</sub> was treated with Me malonyl chloride in the presence of Et<sub>3</sub>N, followed by reaction with 1-iodobutane in N-methylpyrrolidinone in the presence of LiOH to give Me 2-phenylcarbamoylhexanoate. The above compound was treated with NaOH in MeOH, followed by the addition of 1 N aqueous HCl solution to afford 2-phenylcarbamoylhexanoic acid (74%). The hexanoic acid in DMF was treated with PyBOP, aminoacetonitrile bisulfate, and Et<sub>3</sub>N to provide 2-butyl-N-cyanomethyl-N'-phenylmalonamide (II) (57%). I showed inhibition consts. against cathepsin S in the range of 10<sup>-10</sup> M to 10<sup>-7</sup> M. Pharmaceutical formulations containing a compound of formula I were also presented.

## MSTR 1

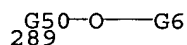


G1 = H / F / Cl / Br / I / R  
 G2 = H / F / Cl / Br / I / carbocycle <containing 3-10 C, non-aromatic, mono- or polycyclic> / heterocycle <containing 3-10 atoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), non-aromatic, mono- or polycyclic> / aryl <containing 6-10 C, mono- or bicyclic> /

- heteroaryl <containing up to 10 atoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), mono- or bicyclic> / R
- G3 = carbocycle <containing 3-10 C, non-aromatic, mono- or polycyclic> / heterocycle <containing 3-10 atoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), non-aromatic, mono- or polycyclic> / aryl <containing 6-10 C, mono- or bicyclic> / heteroaryl <containing up to 10 atoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), mono- or bicyclic>
- G4 = 280 / 283 / 286 / 292 / heterocycle <containing 3-10 atoms, 1 or more N, zero or more O, zero or more S (no other heteroatoms), attached through 1 N, mono- or polycyclic> / (Specifically claimed: 417 / morpholino / 443)



- G5 = carbon chain <containing 1-4 C> / aryl <containing up to 10 C, mono- or bicyclic> / heteroaryl <containing up to 10 atoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), mono- or bicyclic> / carbon chain <containing 1-6 C> (substd. by G22)
- G6 = H / carbon chain <containing 1-6 C>
- G7 = H / R
- G8 = H / R
- G9 = H / F / Cl / Br / I / aryl <containing up to 10 C, mono- or bicyclic> / heteroaryl <containing up to 10 atoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), mono- or bicyclic> / R
- G10 = H / carbon chain <containing 1-6 C> / 289



- G11 = CN / 62 / 171

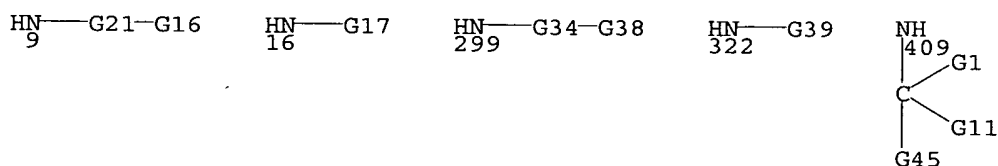


- G12 = H / carbon chain <containing 1-6 C> (opt. substd. by 1 or more G49)
- G13 = carbon chain <containing 1-6 C> (opt. substd. by 1 or more G49)
- G14 = carbocycle <containing 3-10 C, non-aromatic,

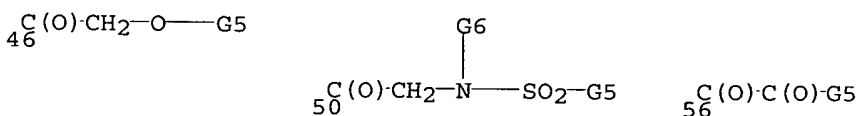
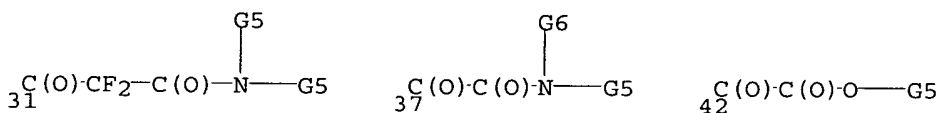
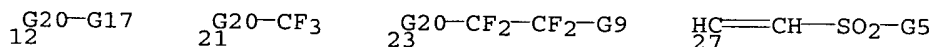
mono- or polycyclic> / heterocycle <containing 3-10 atoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), non-aromatic,  
 mono- or polycyclic> / aryl <containing 6-10 C,  
 mono- or bicyclic> / heteroaryl <containing up to 10 atoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), mono- or bicyclic> /  
 67

G25-G26  
 67

G15 = 9 / 409 / 16 / OH / (Specifically claimed: 299 /  
 322)



G16 = CN / 12 / 21 / 23 / 27 / 31 / 37 / 42 / 46 / 50 /  
 56



G17 = heterocycle <containing 4-14 atoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 mono- or bicyclic> / 14

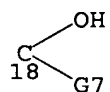
G18-G19  
 14

G18 = heterocycle <containing 4-14 atoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 mono- or bicyclic>

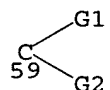
G19 = O / NH / S

G20 = 18 / C(O)





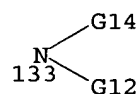
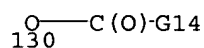
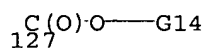
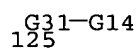
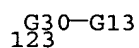
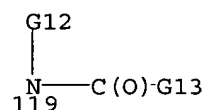
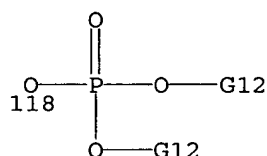
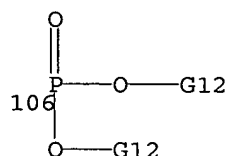
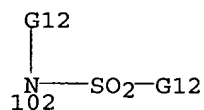
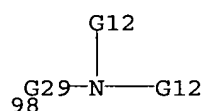
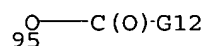
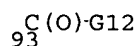
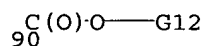
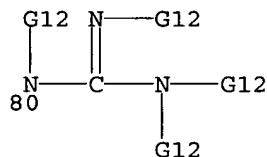
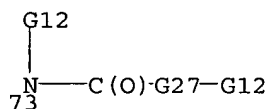
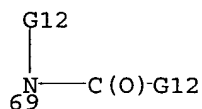
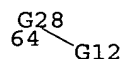
G21 = 59 / carbocycle <containing 3-8 C, attached through 1 C, non-aromatic, mono- or polycyclic> / heterocycle <containing 3-8 atoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), 1 or more C, attached through 1 C, non-aromatic, mono- or polycyclic>

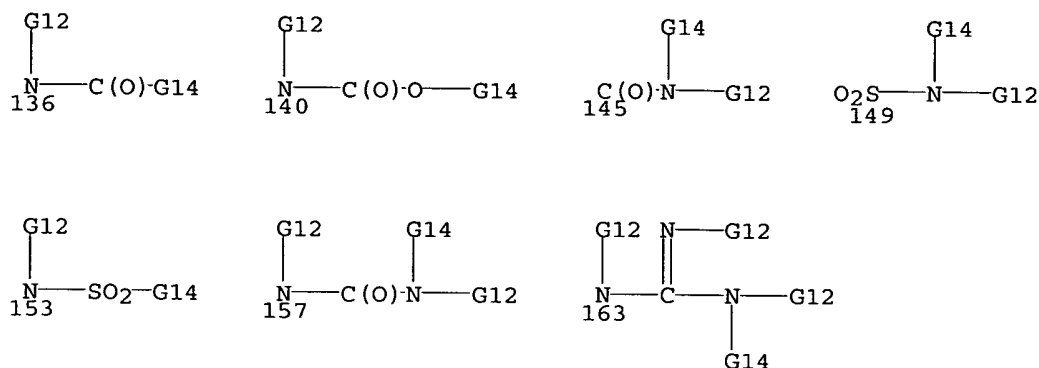


G22 = aryl <containing up to 10 C, mono- or bicyclic> / heteroaryl <containing up to 10 atoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), mono- or bicyclic>

G23 = carbon chain <containing 1-6 C>

G24 = 64 / 69 / 73 / 80 / 90 / 93 / 95 / 98 / 102 / 106 / 118 / 119 / 123 / 125 / 127 / 130 / 133 / 136 / 140 / 145 / 149 / 153 / 157 / 163

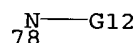




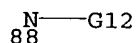
G25 = carbon chain <containing 1-6 C>

G26 = carbocycle <containing 3-10 C, non-aromatic, mono- or polycyclic> / heterocycle <containing 3-10 atoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), non-aromatic, mono- or polycyclic> / aryl <containing 6-10 C, mono- or bicyclic> / heteroaryl <containing up to 10 atoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), mono- or bicyclic>

G27 = O / 78



G28 = O / S / 88

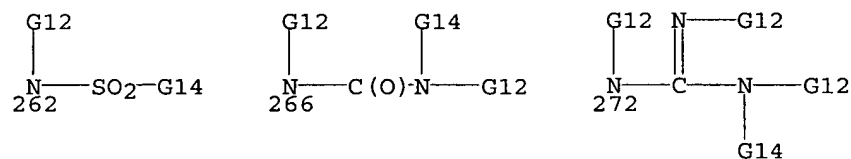
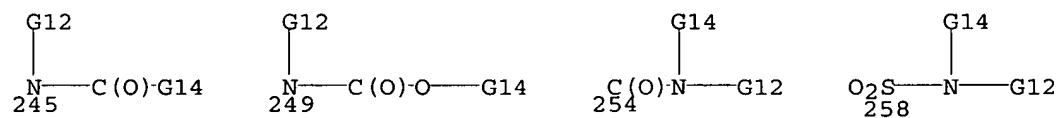
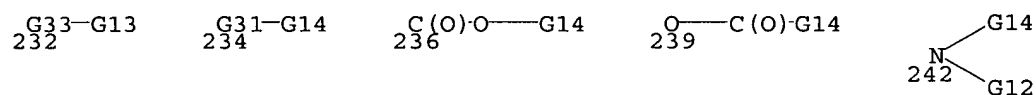
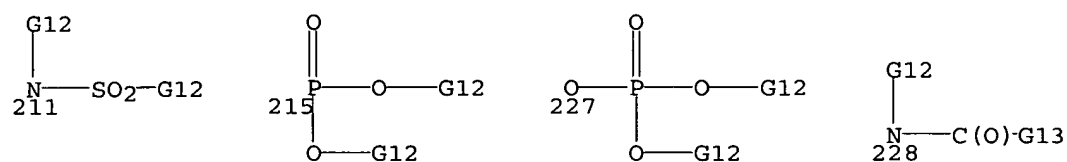
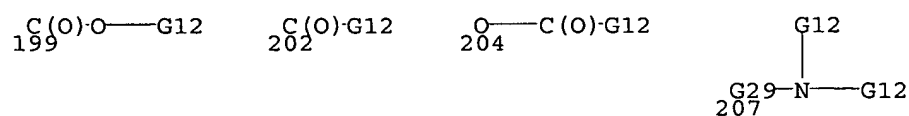
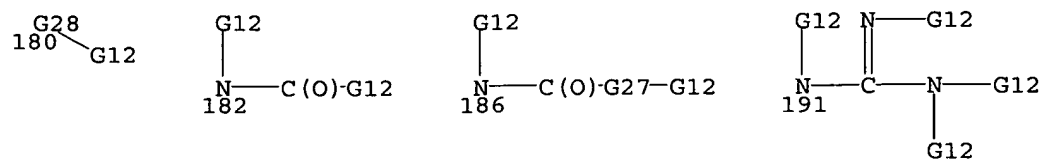


G29 = C(O) / SO<sub>2</sub>

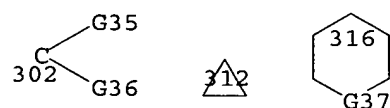
G30 = S(O) / SO<sub>2</sub>

G31 = O / S / S(O) / SO<sub>2</sub> / C(O)

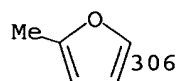
G32 = 180 / 182 / 186 / 191 / 199 / 202 / 204 / 207 / 211 / 215 / 227 / 228 / 232 / 234 / 236 / 239 / 242 / 245 / 249 / 254 / 258 / 262 / 266 / 272 / H / carbon chain <containing 1-6 C> (opt. substd. by 1 or more G49) / carbocycle <containing 3-10 C, non-aromatic, mono- or polycyclic> / heterocycle <containing 3-10 atoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), non-aromatic, mono- or polycyclic> / aryl <containing 6-10 C, mono- or bicyclic> / heteroaryl <containing up to 10 atoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), mono- or bicyclic>



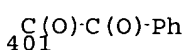
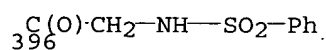
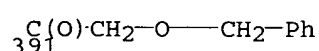
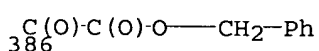
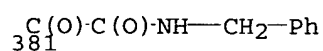
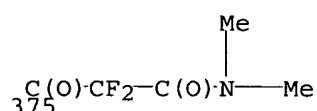
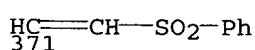
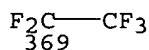
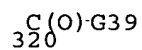
G33 = C(O) / S(O) / SO<sub>2</sub>  
 G34 = 302 / 312 / 316



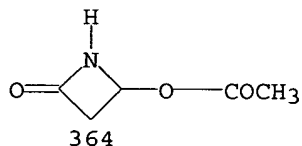
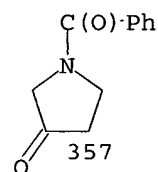
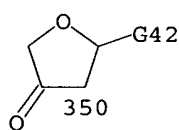
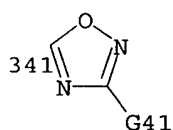
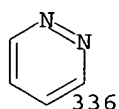
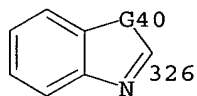
G35 = H / Me  
 G36 = H / CH<sub>2</sub>OMe / carbon chain <containing 1-6 C> /  
 CH<sub>2</sub>CH<sub>2</sub>Ph / 2-thienyl / 306



G37 = O / NMe

G38 = CN / 320 / CF<sub>3</sub> / 369 / 371 / 375 / 381 / 386 / 391 / 396 / 401

G39 = 326 / 2-pyrimidinyl / 336 / 341 / 350 / 357 / 364

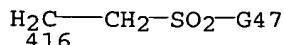
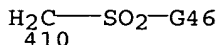
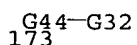
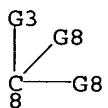


G40 = NH / O / S

G41 = Ph / Et

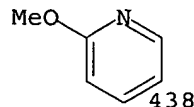
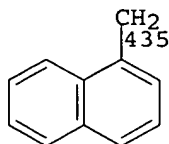
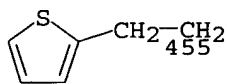
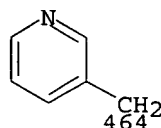
G42 = Me / Et

G43 = 8 / 173 / (Specifically claimed: 410 / 416)



G44 = carbon chain &lt;containing 1-7 C&gt; (opt. substd.)

G45 = CN / CF<sub>3</sub> / RG46 = 2-thienyl / CH<sub>2</sub>Ph (opt. substd.) / PhG47 = Ph / 2-pyridyl / 4-pyridyl / CH<sub>2</sub>PhG48 = Ph / CH<sub>2</sub>Ph / 419 / CH<sub>2</sub>CH<sub>2</sub>Ph / 421 / cyclohexyl /

435 / 3-pyridyl / 438 / 446 / 455 / 456 / CH<sub>2</sub>CN / 464p-C<sub>6</sub>H<sub>4</sub>OPh  
419H<sub>2</sub>C—CH<sub>2</sub>—CH<sub>2</sub>—Ph  
421H<sub>2</sub>C—p-C<sub>6</sub>H<sub>4</sub>NO<sub>2</sub>  
446m-C<sub>6</sub>H<sub>4</sub>OPh  
456

G49 = F / Cl / Br / I

G50 = bond / carbon chain &lt;containing 1-6 C&gt; / R

Patent location: claim 1

Note: and N-oxide derivatives, prodrug derivatives,  
protected derivatives, and pharmaceutically  
acceptable salts and solvates

Note: also incorporates claim 10

Stereochemistry: and isomers

REFERENCE COUNT: 14 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 62 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 138:11404 MARPAT

TITLE: CXCR4 antagonistic drugs comprising  
nitrogen-containing compoundsINVENTOR(S): Yanaka, Mikiro; Yamazaki, Toru; Bannai, Kenji; Hirose,  
Kunitaka

PATENT ASSIGNEE(S): Kureha Chemical Industry Co., Ltd., Japan

SOURCE: PCT Int. Appl., 227 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002094261	A1	20021128	WO 2002-JP4846	20020520
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1389460	A1	20040218	EP 2002-771732	20020520
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
CN 1630517	A	20050622	CN 2002-814640	20020520
US 2004157818	A1	20040812	US 2004-478290	20040116

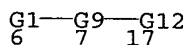
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JP 2001-154904 20010524

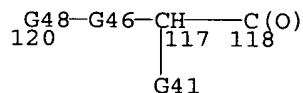
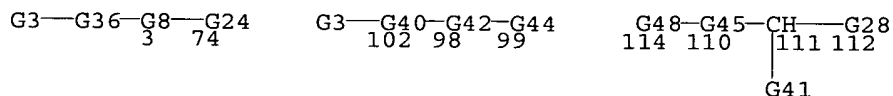
WO 2002-JP4846 20020520

AB Claimed are CXCR4 antagonist drugs containing N-containing compds.  
 A1(CH<sub>2</sub>)<sub>n</sub>WxCH[(CH<sub>2</sub>)<sub>m</sub>A2]<sub>y</sub>D (A1 and A2 represents each guanidino, A3B1NR1,  
 etc.; A3 represents a monocyclic or polycyclic aromatic heterocycle having 1  
 or 2 hetero atoms; B1 represents a single bond or alkylene; and R1  
 represents hydrogen or alkyl; W represents C2-3 alkylene, C5-10  
 cycloalkylene, C6-10 aromatic cycle or C5-10 aromatic heterocycle; y is CO; x  
 is  
 CONH; n is an integer of 1 or 2; m is an integer of 2 or 3; and D is  
 selected from among various substituents) or pharmacol. acceptable salts  
 thereof as active ingredients. The bioactivities and toxicity of the  
 title compds. were demonstrated. The title compds. are remedies for  
 rheumatism, cancer metastasis, etc. Formulations are given.

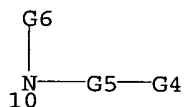
## MSTR 1



G1 = 74 / 99 / 112 / 118

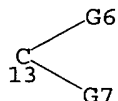


G2 = bond / alkylene &lt;containing 1-4 C, unbranched&gt;

G3 = NO<sub>2</sub> / CN / alkyl <containing 1-6 C> / NHC(NH)NH<sub>2</sub> /  
C(NH)NH<sub>2</sub> / 10

G4 = heteroaryl <containing up to 12 atoms,  
 1-6 heteroatoms, 0-4 N> (opt. substd.) /  
 heterocycle <containing 5-12 atoms, 1-5 heteroatoms, 0-3 N,  
 1 or more double bonds> (opt. substd.)

G5 = bond / 13

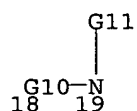


G6 = H / alkyl <containing 1-6 C> (opt. substd.) /  
 alkenyl <containing 2-6 C> (opt. substd.) /  
 alkynyl <containing 2-6 C> (opt. substd.)

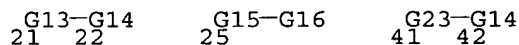
G7 = H / alkyl <containing 1-6 C> (opt. substd.) /  
 alkenyl <containing 2-6 C> (opt. substd.) /  
 alkynyl <containing 2-6 C> (opt. substd.) /  
 heteroaryl <containing up to 12 atoms, 1-6 heteroatoms,  
 0-4 N> (opt. substd.) / heterocycle <containing 5-12 atoms,  
 1-5 heteroatoms, 0-3 N, 1 or more double bonds>  
 (opt. substd.)

G8 = cycloalkylene <containing 3-10 C> (opt. substd.) /  
 carbocycle <containing 6-15 C, 1 or more double bonds>  
 (opt. substd.) / heterocycle <containing 3-15 atoms,  
 1-3 heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.)

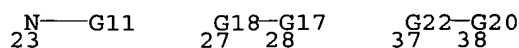
G9 = O / S / 18-6 19-17



G10 = bond / NH  
 G11 = H / R  
 G12 = H / alkyl <containing 1-6 C> (opt. substd.) /  
 alkenyl <containing 2-6 C, 1-2 double-exact bonds>  
 (opt. substd.) / alkynyl <containing 2-6 C, 1-2 triple bonds>  
 (opt. substd.) / cycloalkyl <containing 3-10 C>  
 (opt. substd.) / 25 / carbocycle <containing 6-15 C,  
 1 or more double bonds> (opt. substd.) /  
 heterocycle <containing 3-15 atoms, 1-3 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.) / 41 /  
 21



G13 = O / S / 23 / cycloalkylene <containing 3-10 C>  
 (opt. substd.) / carbocycle <containing 6-15 C,  
 1 or more double bonds> (opt. substd.) /  
 heterocycle <containing 3-15 atoms, 1-3 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.) /  
 37-7 38-22 / 27-7 28-22



G14 = H / alkyl <containing 1-6 C> (opt. substd.) /  
 alkenyl <containing 2-6 C, 1-2 double-exact bonds>  
 (opt. substd.) / alkynyl <containing 2-6 C, 1-2 triple bonds>  
 (opt. substd.) / cycloalkyl <containing 3-10 C>  
 (opt. substd.) / 68 / carbocycle <containing 6-15 C,  
 1 or more double bonds> (opt. substd.) /  
 heterocycle <containing 3-15 atoms, 1-3 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.)

G15-G16  
68

G15 = alkylene <containing 1-9 C> (opt. substd.)  
G16 = aryl <containing 6-14 C> (opt. substd.)  
G17 = O / S / 29

N—G11  
29

G18 = alkylene <containing 1-10 C> (opt. substd.) /  
alkenylene <containing 2-10 C, 1-2 double bonds>  
(opt. substd.) / alkynylene <containing 2-10 C,  
1-2 triple bonds> (opt. substd.) / 31-7 32-28 /  
cycloalkylene <containing 3-10 C> (opt. substd.) /  
carbocycle <containing 6-15 C, 1 or more double bonds>  
(opt. substd.) / heterocycle <containing 3-15 atoms,  
1-3 heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.) /  
33-7 34-28

G19-C(O)      G21-G20  
31 32      33 34

G19 = alkylene <containing 1-3 C> (opt. substd.)  
G20 = cycloalkylene <containing 3-10 C> (opt. substd.) /  
carbocycle <containing 6-15 C, 1 or more double bonds>  
(opt. substd.) / heterocycle <containing 3-15 atoms,  
1-3 heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.)  
G21 = alkylene <containing 1-10 C> (opt. substd.) /  
alkenylene <containing 2-10 C, 1-2 double bonds>  
(opt. substd.) / alkynylene <containing 2-10 C,  
1-2 triple bonds> (opt. substd.) / 35-7 36-34

G19-C(O)  
35 36

G22 = alkylene <containing 1-10 C> (opt. substd.) /  
alkenylene <containing 2-10 C, 1-2 double bonds>  
(opt. substd.) / alkynylene <containing 2-10 C,  
1-2 triple bonds> (opt. substd.) / 39-7 40-38

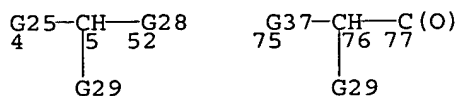
G19-C(O)  
39 40

G23 = alkylene <containing 1-10 C> (opt. substd.) /  
alkenylene <containing 2-10 C, 1-2 double bonds>  
(opt. substd.) / alkynylene <containing 2-10 C,  
1-2 triple bonds> (opt. substd.) / 43-7 44-42

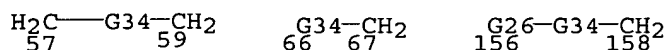
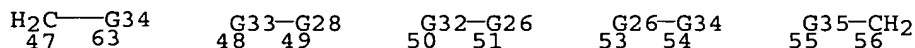
G19-C(O)  
43 44



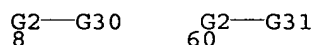
G24 = 4-3 52-7 / 75-3 77-7



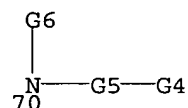
G25 = C(O) / S / S(O) / SO2 / CH2 (opt. substd.) /  
 48-3 49-5 / 50-3 51-5 / 53-3 54-5 / 47-3 63-5 /  
 55-3 56-5 / 66-3 67-5 / 57-3 59-5 / 156-3 158-5



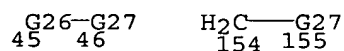
G26 = O / S / NH (opt. substd.)  
 G27 = C(O) / S / S(O) / SO2 / CH2 (opt. substd.)  
 G28 = S / S(O) / SO2  
 G29 = 8 / 60 / alkyl <containing 1-10 C>



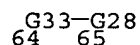
G30 = NO2 / NHC(NH)NH2 / 70



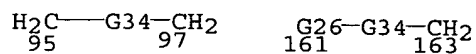
G31 = CN / C(NH)NH2  
 G32 = C(O) / S / S(O) / SO2 / CH2 (opt. substd.) /  
 45-3 46-51 / 154-3 155-51



G33 = O / S / NH (opt. substd.) / CH2  
 G34 = C(O) / CH2 (opt. substd.)  
 G35 = S / S(O) / SO2 / 64-3 65-56



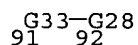
G36 = bond / alkylene <containing 1-3 C, unbranched>  
 G37 = C(O) / S / S(O) / SO2 / CH2 (opt. substd.) /  
 79-3 80-76 / 81-3 82-76 / 85-3 86-76 / 87-3  
 88-76 /  
 89-3 90-76 / 93-3 94-76 / 95-3 97-76 / 161-3 163-76



G38 = C(O) / S / S(O) / SO<sub>2</sub> / CH<sub>2</sub> (opt. substd.) /  
83-3 84-82 / 159-3 160-82

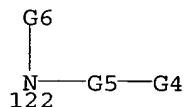


G39 = S / S(O) / SO<sub>2</sub> / 91-3 92-90

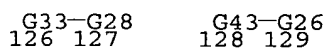


G40 = carbon chain <containing 1-10 C,  
0 or more double bonds, 0 or more triple bonds>  
(opt. substd.)

G41 = NO<sub>2</sub> / CN / alkyl <containing 1-10 C>  
(opt. substd.) / NHC(NH)NH<sub>2</sub> / C(NH)NH<sub>2</sub> / 122



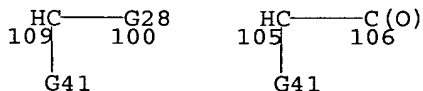
G42 = S / S(O) / SO<sub>2</sub> / 126-102 127-99 / 128-102 129-99



G43 = C(O) / S / S(O) / SO<sub>2</sub> / CH<sub>2</sub> (opt. substd.) /  
130-102 131-129 / 164-102 165-129



G44 = 109-98 100-7 / 105-98 106-7



G45 = C(O) / CH<sub>2</sub> (opt. substd.) / 108-114 104-111 /  
132-114 133-111 / 134-114 135-111 / 138-114 139-111 /  
140-114 142-111 / 166-114 168-111

$\begin{array}{ccccc} \text{G26-G34} & \text{H}_2\text{C-G34} & \text{G47-CH}_2 & \text{G34-CH}_2 & \text{H}_2\text{C-G34-CH}_2 \\ 108\ 104 & 132\ 133 & 134\ 135 & 138\ 139 & 140\ 142 \end{array}$

$\begin{array}{cc} \text{G26-G34-CH}_2 \\ 166\ 168 \end{array}$

G46 = C(O) / CH<sub>2</sub> (opt. substd.) / 115-120 121-117 /  
 143-120 144-117 / 145-120 146-117 / 149-120 150-117 /  
 151-120 153-117 / 169-120 171-117

$\begin{array}{ccccc} \text{G26-G34} & \text{H}_2\text{C-G34} & \text{G49-CH}_2 & \text{G34-CH}_2 & \text{H}_2\text{C-G34-CH}_2 \\ 115\ 121 & 143\ 144 & 145\ 146 & 149\ 150 & 151\ 153 \end{array}$

$\begin{array}{cc} \text{G26-G34-CH}_2 \\ 169\ 171 \end{array}$

G47 = S / S(O) / SO<sub>2</sub> / 136-114 137-135

$\begin{array}{cc} \text{G33-G28} \\ 136\ 137 \end{array}$

G48 = carbon chain <containing 1-10 C,  
 0 or more double bonds, 0 or more triple bonds>  
 (opt. substd.)

G49 = S / S(O) / SO<sub>2</sub> / 147-120 148-146

$\begin{array}{cc} \text{G33-G28} \\ 147\ 148 \end{array}$

Patent location: claim 1  
 Note: additional ring formation also claimed  
 Note: or pharmacologically acceptable salts

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 63 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 137:363072 MARPAT

TITLE: Novel aromatic azides for type I phototherapy

INVENTOR(S): Rajagopalan, Raghavan; Cantrell, Gary; Achilefu,  
 Samuel I.; Bugaj, Joseph E.; Dorshow, Richard B.

PATENT ASSIGNEE(S): Mallinckrodt Inc., USA

SOURCE: U.S. Pat. Appl. Publ., 15 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----

US 2002169107

A1 20021114

US 2001-766347 20010119

US 2004180864

A1 20040916

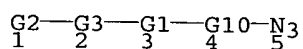
US 2004-808184 20040324

## PRIORITY APPLN. INFO.:

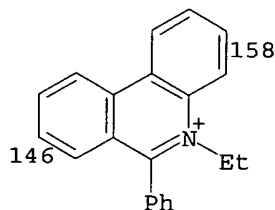
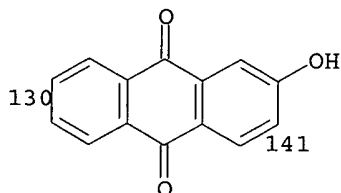
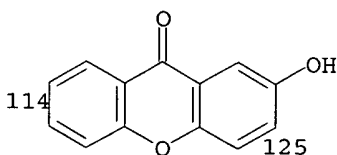
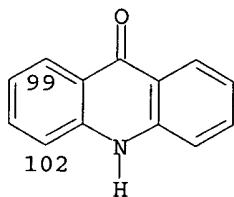
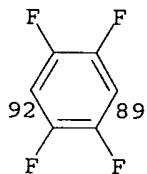
US 2001-766347 20010119

AB The present invention discloses novel aromatic azide derivs. and their bioconjugates for phototherapy of tumors and other lesions. The organic azides of the present invention are designed to absorb low-energy UV, visible, or near-IR region of the electromagnetic spectrum. The phototherapeutic effect is caused by direct interaction of nitrene, the reactive intermediate produced upon photoexcitation of the aromatic azide, with the tissue of interest. The compds. of the present invention are administered to a patient, allowed to accumulate at the site of the tumor or other lesion, and are exposed to light in order to perform a phototherapeutic procedure.

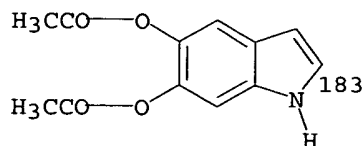
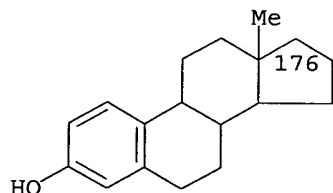
## MSTR 1



G1 = arylene <mono- or polycyclic> (opt. substd.) / heteroarylene <containing zero or more N, zero or more O, zero or more S (no other heteroatoms), mono- or polycyclic> (opt. substd.) / (Specifically claimed: 92-2 89-4 / 102-2 99-4 / 125-2 114-4 / 141-2 130-4 / 158-2 146-4 )

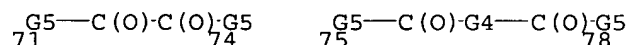
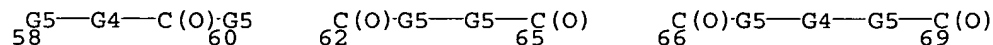
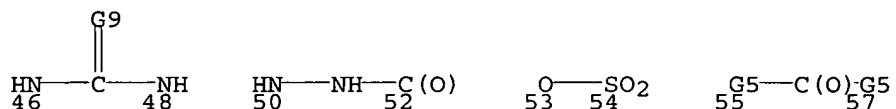
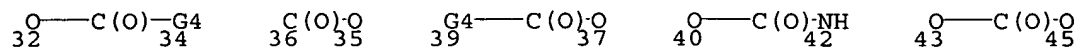
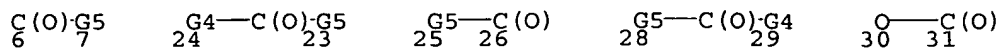


G2 = R <"receptor binding moiety"> / (Examples: 176 / 183)

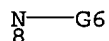


G3 = bond / G4 / 6-1 7-3 / 24-1 23-3 / 25-1 26-3 /

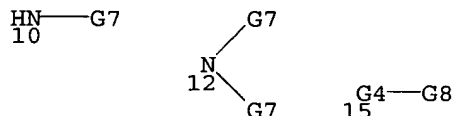
28-1 29-3 / 30-1 31-3 / 32-1 34-3 / 36-1 35-3 /  
 39-1 37-3 / 40-1 42-3 / 43-1 45-3 / 46-1 48-3 /  
 50-1 52-3 / 53-1 54-3 / 55-1 57-3 / 58-1 60-3 /  
 62-1 65-3 / 66-1 69-3 / 71-1 74-3 / 75-1 78-3



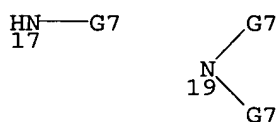
G4 = (1-10) CH2  
 G5 = NH / 8



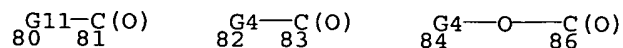
G6 = alkyl <containing 1-10 C> / OH /  
 alkyl <containing 1-10 C> (substd. by 1 or more OH) /  
 alkoxy <containing 1-10 C> / alkyl <containing 1 or more C>  
 (substd. by alkoxy <containing 1 or more C>) / SO3H / CO2H /  
 NH2 / 10 / 12 / 15



G7 = alkyl <containing 1-10 C>  
 (opt. substd. by 1 or more OH) / aryl <containing 6-10 C>  
 G8 = CO2H / NH2 / 17 / 19



G9 = O / S  
 G10 = bond / G4 / 80-3 81-5 / C(O) / 82-3 83-5 /  
 84-3 86-5



G11 = O / NH

Patent location: claim 1

L71 ANSWER 64 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 137:358134 MARPAT

TITLE: Preparation of azo compound conjugates with bombesin for type I phototherapy

INVENTOR(S): Rajagopalan, Raghavan; Cantrell, Gary L.; Bugaj, Joseph E.; Achilefu, Samuel I.; Dorshow, Richard B.

PATENT ASSIGNEE(S): Mallinckrodt Inc., USA

SOURCE: U.S. Pat. Appl. Publ., 12 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

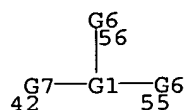
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002164287	A1	20021107	US 2001-849163	20010504
US 6485704	B2	20021126		
CA 2445068	AA	20021114	CA 2002-2445068	20020418
WO 2002089858	A1	20021114	WO 2002-US12217	20020418
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1390080	A1	20040225	EP 2002-769275	20020418
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2005506307	T2	20050303	JP 2002-586990	20020418
US 2003072763	A1	20030417	US 2002-272123	20021015
US 6747151	B2	20040608		

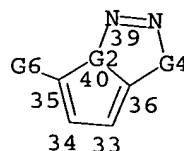
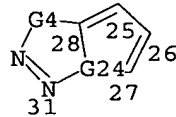
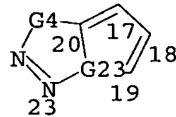
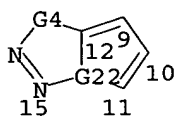
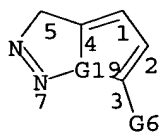
PRIORITY APPLN. INFO.: US 2001-849163 20010504  
 WO 2002-US12217 20020418

AB Novel azo compds. and their bioconjugates for phototherapy and/or photodiagnosis of tumors and other lesions are disclosed. The azo derivs. are designed to absorb at the low-energy UV, visible, or the NIR region of the electromagnetic spectrum. The phototherapeutic effect is caused by direct interaction of free radicals, the reactive intermediate produced upon photoexcitation of the azo compound, with the tissue of interest. An azocoumarin-bombesin conjugate was prepared treatment of the peptide (obtained by solid-phase synthesis) with the azo compound

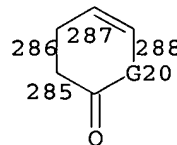
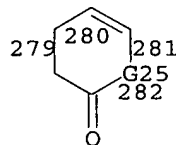
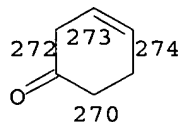
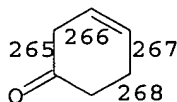
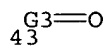
MSTR 1A



G1 = 5-42 1-56 2-55 / 9-42 10-56 11-55 /  
18-42 17-56 19-55 / 27-42 25-56 26-55 / 40-42 33-56 34-55

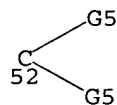


G2 = any ring <containing zero or more heteroatoms,  
zero or more N, zero or more O, zero or more S,  
1 or more double bonds, mono- or bicyclic,  
(1-2) 6-membered rings only> (opt. substd. by 1 or more G16)  
/ 43 / (Specifically claimed: 265-39 266-36 267-35 268-42 /  
272-39 273-36 274-35 270-42 / 279-39 280-36 281-35 282-42 /  
286-39 287-36 288-35 285-42 )

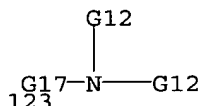
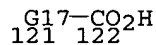


G3 = any ring <containing zero or more heteroatoms,  
zero or more N, zero or more O, zero or more S,  
1 or more double bonds, mono- or bicyclic,  
(1-2) 6-membered rings only> (opt. substd.)

G4 = bond / 52

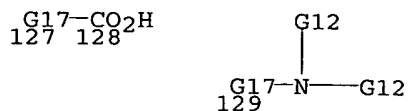


G5 = H / alkyl <containing 1-10 C>  
(opt. substd. by 2 or more OH) / aryl <containing 6-10 C> /  
alkyl <containing 1-9 C> (substd. by alkoxy <containing 1-9  
C>) / 121 / 123

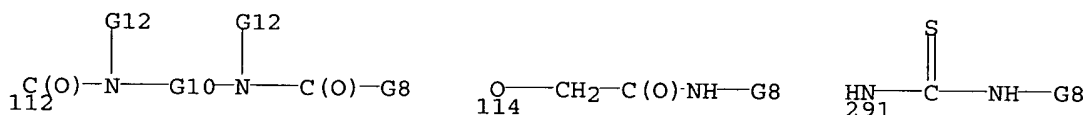
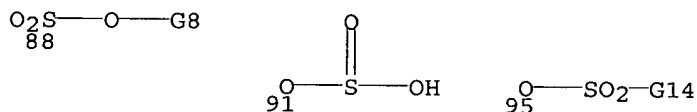
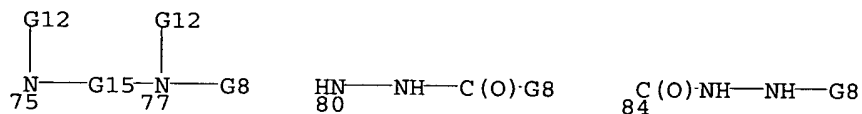
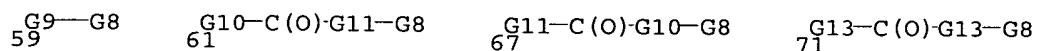


G6 = H / alkyl <containing 1-10 C>  
(opt. substd. by 2 or more OH) / aryl <containing 6-10 C> /  
OH / SO3H / alkoxy <containing 1-10 C> /  
alkyl <containing 1-9 C> (substd. by 2 or more alkoxy

&lt;containing 1-9 C&gt; / 127 / 129



G7 = H / R <"antibodies, peptides, peptidomimetics, carbohydrates, glycomimetics, drugs, hormones or nucleic acids"> / 59 / 61 / 67 / 71 / 291 / 75 / 80 / 84 / 88 / 91 / 95 / 112 / (Example: 114)

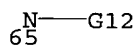


G8 = H / R <"antibodies, peptides, peptidomimetics, carbohydrates, glycomimetics, drugs, hormones or nucleic acids">

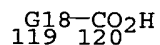
G9 = (1-10) CH<sub>2</sub>

G10 = (0-10) CH<sub>2</sub>

G11 = 65 / O



G12 = H / alkyl <containing 1-10 C> (opt. substd. by 2 or more OH) / aryl <containing 6-10 C> / CO<sub>2</sub>H / 119



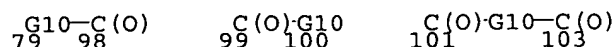
G13 = O / NH

G14 = R <"antibodies, peptides, peptidomimetics, carbohydrates, glycomimetics, drugs,

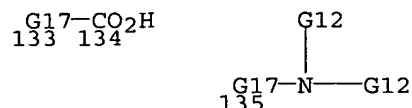


hormones or nucleic acids"&gt;

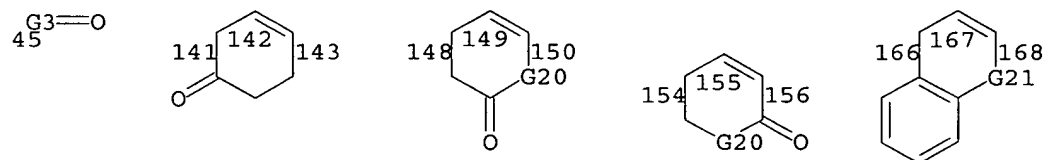
G15 = 79-75 98-77 / 99-75 100-77 / 101-75 103-77



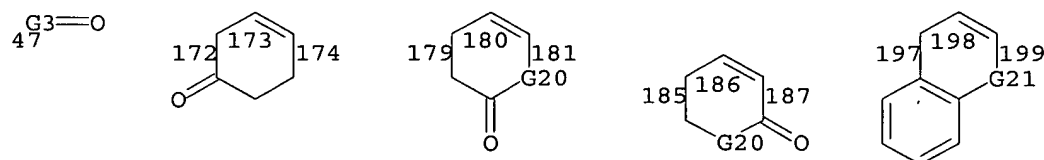
G16 = alkyl <containing 1-10 C>  
 (opt. substd. by 2 or more OH) / aryl <containing 6-10 C> /  
 alkyl <containing 1-9 C> (substd. by alkoxy <containing 1-9  
 C>) / 133 / 135



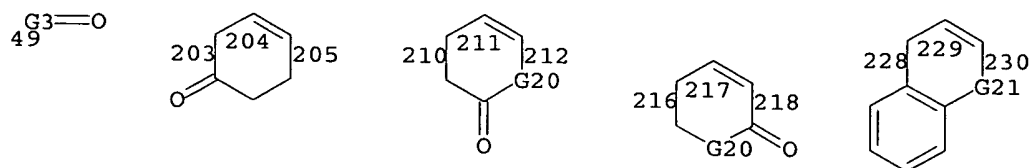
G17 = bond / alkylene <containing 1-10 C, unbranched>  
 G18 = alkylene <containing 1-10 C, unbranched>  
 G19 = any ring <containing zero or more heteroatoms,  
 zero or more N, zero or more O, zero or more S,  
 1 or more double bonds, mono- or bicyclic,  
 (1-2) 6-membered rings only> (opt. substd. by 1 or more G16)  
 / 45 / (Specifically claimed: 141-7 142-4 143-3 /  
 148-7 149-4 150-3 / 154-7 155-4 156-3 / 166-7 167-4 168-3 )



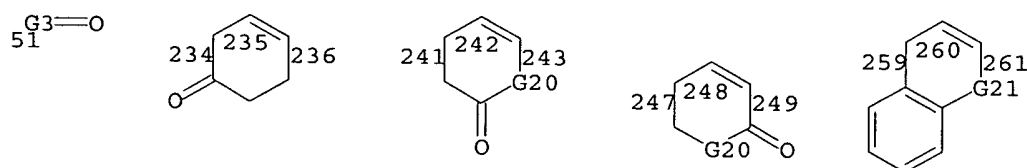
G20 = CH<sub>2</sub> / O / NH  
 G21 = CH<sub>2</sub> / O / NH / C(O)  
 G22 = any ring <containing zero or more heteroatoms,  
 zero or more N, zero or more O, zero or more S,  
 1 or more double bonds, mono- or bicyclic,  
 (1-2) 6-membered rings only> (opt. substd. by 1 or more G16)  
 / 47 / (Specifically claimed: 172-15 173-12 174-11 /  
 179-15 180-12 181-11 / 185-15 186-12 187-11 /  
 197-15 198-12 199-11 )



G23 = any ring <containing zero or more heteroatoms,  
 zero or more N, zero or more O, zero or more S,  
 1 or more double bonds, mono- or bicyclic,  
 (1-2) 6-membered rings only> (opt. substd. by 1 or more G16)  
 / 49 / (Specifically claimed: 203-23 204-20 205-19 /  
 210-23 211-20 212-19 / 216-23 217-20 218-19 /  
 228-23 229-20 230-19 )



G24 = any ring <containing zero or more heteroatoms,  
zero or more N, zero or more O, zero or more S,  
1 or more double bonds, mono- or bicyclic,  
(1-2) 6-membered rings only> (opt. substd. by 1 or more G16)  
/ 51 / (Specifically claimed: 234-31 235-28 236-27 /  
241-31 242-28 243-27 / 247-31 248-28 249-27 /  
259-31 260-28 261-27 )



G25 = CH / N

Patent location:

claim 1

Note:

additional ring formation also claimed

L71 ANSWER 65 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 137:337793 MARPAT

TITLE: Preparation of arylindenopyridines as  
phosphodiesterase inhibitors

INVENTOR(S): Heintzelman, Geoffrey R.; Averill, Kristin M.; Dodd,  
John H.

PATENT ASSIGNEE(S): Ortho-McNeil Pharmaceutical, Inc., USA

SOURCE: PCT Int. Appl., 91 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT: 5

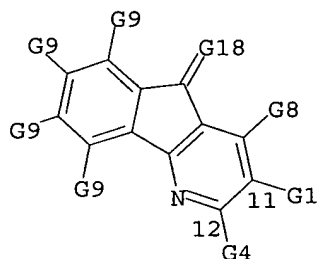
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002085894	A1	20021031	WO 2002-US11823	20020416
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
CA 2445188	AA	20021031	CA 2002-2445188	20020416
EP 1385843	A1	20040204	EP 2002-725675	20020416
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			

CN 1516698	A	20040728	CN 2002-811974	20020416
JP 2004532228	T2	20041021	JP 2002-583421	20020416
PRIORITY APPLN. INFO.:			US 2001-284465P	20010418
			WO 2002-US11823	20020416

AB This invention provides novel arylindenopyridines (shown as I; variables defined below and/or in claims; e.g. 4-(3,5-dimethylphenyl)-2-methyl-5-oxo-5H-indeno[1,2-b]pyridine-3-carboxylic acid Me ester), and pharmaceutical compns. comprising same, useful for treating disorders ameliorated by reducing phosphodiesterase (PDE) activity in appropriate cells. I are potent small mol. phosphodiesterase inhibitors that have demonstrated potency for inhibition of PDE7, PDE5, and PDE4; some I are potent small mol. PDE7 inhibitors that have also demonstrated good selectivity against PDE5 and PDE4; data are provided for about 30 I. This invention also provides therapeutic and prophylactic methods using the instant pharmaceutical compns. Although the methods of preparation are not claimed, 21 example prepsns. of intermediates and I are included; mass spectral data are tabulated for 263 examples of I. In I: R1 is -COR5, COOR6, cyano, a lactone or lactam formed with R4, -CONR7R8. R2 is optionally substituted alkyl, aryl, heteroaryl, heterocyclyl and C3-7 cycloalkyl. R3 is 1-4 groups H, halo, C1-8 straight or branched chain alkyl, arylalkyl, C3-7 cycloalkyl, C1-8 alkoxy, cyano, C1-4 carboalkoxy, trifluoromethyl, C1-8 alkylsulfonyl, halogen, nitro, hydroxy, trifluoromethoxy, C1-8 carboxylate, aryl, heteroaryl, and heterocyclyl; -NR10R11; -NR12COR13. R4 is H, C1-3 straight or branched chain alkyl, benzyl and -NR13R14. X is S and O.

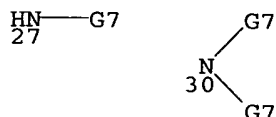
## MSTR 1



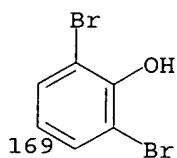
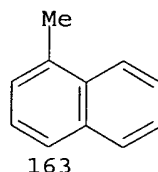
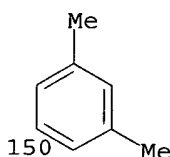
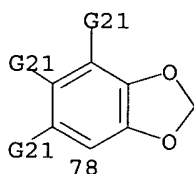
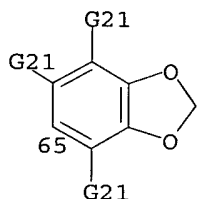
G1 = 15 / CO2H / 17 / CN / 25

$\overset{\text{C(O)}\cdot\text{G2}}{\underset{15}{\text{C}}}$      $\overset{\text{C(O)}\cdot\text{O}\cdots\text{G3}}{\underset{17}{\text{C}}}$      $\overset{\text{C(O)}\cdot\text{G6}}{\underset{25}{\text{C}}}$

G2 = alkyl <containing 1-8 C> (opt. substd.) /  
aryl (opt. substd.) / aralkyl (opt. substd.)  
G3 = alkyl <containing 1-8 C>  
(opt. substd. by 1 or more G19) / aryl (opt. substd.) /  
aralkyl (opt. substd.) / (Specifically claimed: Me / Et)  
G4 = H / alkyl <containing 1-3 C> (opt. substd.) /  
CH2Ph (opt. substd.) / NH2 / alkylamino <containing 1-6 C>  
(opt. substd.) / dialkylamino <each alkyl containing 1-6 C>  
(opt. substd.) / (Specifically claimed: Me)  
G5 = O / NH  
G6 = NH2 / 27 / 30 / heterocycle <containing 1 or more  
N, zero or more O, zero or more S (no other heteroatoms),  
attached through 1 or more N> (opt. substd.)

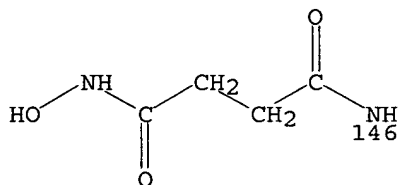
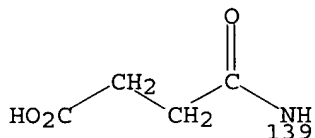
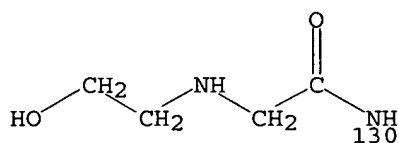
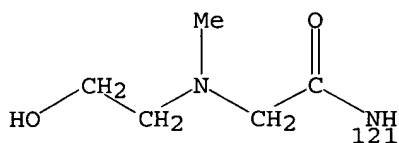
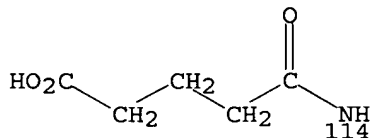
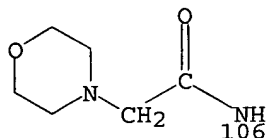
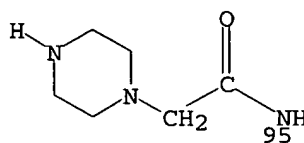
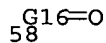
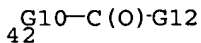
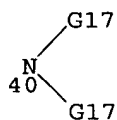
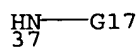


- G7 = alkyl <containing 1-8 C> (opt. substd.) /  
cycloalkyl <containing 3-7 C> (opt. substd.) / CF<sub>3</sub> / OH /  
alkoxy <containing 1-8 C> (opt. substd.) /  
alkylcarbonyl <containing 1-5 C> (opt. substd.) /  
alkylcarbonyl (opt. substd.) / CO<sub>2</sub>H /  
aralkyl (opt. substd.) / aryl (opt. substd.) /  
heteroaryl <containing 5-10 atoms, 1-3 heteroatoms,  
zero or more S, zero or more O,  
zero or more N (no other heteroatoms)> (opt. substd.) /  
heterocycle <containing zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.)
- G8 = alkyl (opt. substd.) / aryl (opt. substd.) /  
heteroaryl <containing 5-10 atoms, 1-3 heteroatoms,  
zero or more S, zero or more O,  
zero or more N (no other heteroatoms)> (opt. substd.) /  
heterocycle <containing zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.) /  
cycloalkyl <containing 3-7 C> (opt. substd.) /  
(Specifically claimed: Ph (opt. substd. by (1-3) G20) /  
naphthyl (opt. substd. by (1-3) G20) / 65 / 78 / 150 / 163 /  
169 / m-C<sub>6</sub>H<sub>4</sub>Me)



- G9 = 3 or more H / F / Cl / Br / I /  
alkyl <containing 1-8 C> (opt. substd.) /  
aralkyl (opt. substd.) / cycloalkyl <containing 3-7 C>  
(opt. substd.) / alkoxy <containing 1-8 C> (opt. substd.) /  
CN / alkoxycarbonyl <containing 1-4 C> (opt. substd.) / CF<sub>3</sub> /  
alkylsulfonyl <containing 1-8 C> (opt. substd.) / NO<sub>2</sub> / OH /  
OCF<sub>3</sub> / alkylcarbonyloxy <containing 1-8 C> (opt. substd.) /  
aryl (opt. substd.) / heteroaryl <containing 5-10 atoms,  
1-3 heteroatoms, zero or more S, zero or more O,  
zero or more N (no other heteroatoms)> (opt. substd.) /  
heterocycle <containing zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.) / NH<sub>2</sub> /  
37 / 40 / heterocycle <containing 1 or more N,  
zero or more O, zero or more S (no other heteroatoms),

attached through 1 or more N> (opt. substd.) / 42 / 58 /  
(Specifically claimed: 95 / 106 / 114 / 121 / 130 / 139 /  
146 / alkylcarbonylamino / NH2 / NO2 / NHCOMe)



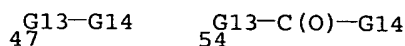
G10 = NH / 45



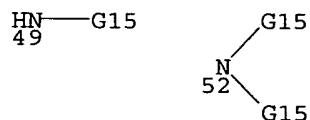
G11 = alkyl (opt. substd.)

G12 = H / alkyl <containing 1-20 C> (opt. substd.) /  
alkoxy <containing 1-3 C> / alkyl (substd. by CO2H) / 47 /  
54 / aryl (opt. substd.) / aralkyl (opt. substd.) /  
heteroaryl <containing 5-10 atoms, 1-3 heteroatoms,  
zero or more S, zero or more O,  
zero or more N (no other heteroatoms)> (opt. substd.) /  
heterocycle <containing zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.) /

cycloalkyl &lt;containing 3-7 C&gt; (opt. substd.)



G13 = (1-6) CH<sub>2</sub>  
 G14 = NH<sub>2</sub> / 49 / 52



G15 = OH / alkyl <containing 1-20 C> /  
 alkoxy <containing 1-8 C>  
 G16 = heterocycle <containing 1 or more N> (opt. substd.)  
 G17 = alkyl <containing 1-8 C> (opt. substd.) /  
 aralkyl (opt. substd.) / cycloalkyl <containing 3-7 C>  
 (opt. substd.) / alkyl (substd. by CO<sub>2</sub>H) /  
 aryl (opt. substd.) / heteroaryl <containing 5-10 atoms,  
 1-3 heteroatoms, zero or more S, zero or more O,  
 zero or more N (no other heteroatoms)> (opt. substd.) /  
 heterocycle <containing zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.)  
 G18 = S / O  
 G19 = R / (Specifically claimed: CN / OH)  
 G20 = F / Cl / Br / I / alkyl <containing 1-20 C>  
 (opt. substd.) / OH / CN / NO<sub>2</sub>  
 G21 = H / F / Cl / Br / I / alkyl <containing 1-20 C>  
 (opt. substd.) / OH / CN / NO<sub>2</sub>  
 G1 +G4 = 21-11 22-12 / 24-11 23-12



Patent location: claim 1  
 Note: additional ring oxidation and quaternization also  
 claimed  
 Note: substitution is restricted  
 Note: and pharmaceutically acceptable salts, esters, and  
 prodrugs

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 66 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 137:247516 MARPAT  
 TITLE: Preparation of N-acylaminoalkanehydroxamic acids as  
 IL-6 production inhibitors  
 INVENTOR(S): Naka, Masao; Takahashi, Kanji  
 PATENT ASSIGNEE(S): Ono Pharmaceutical Co., Ltd., Japan  
 SOURCE: PCT Int. Appl., 194 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

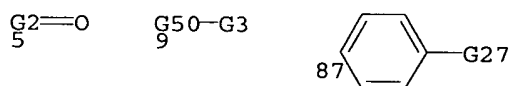
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002074298	A1	20020926	WO 2002-JP2681	20020320
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RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2005119305	A1	20050602	US 2003-472160	20030922
PRIORITY APPLN. INFO.:			JP 2001-81302	20010321
			WO 2002-JP2681	20020320
AB	Interleukin 6 (IL-6) production inhibitors containing as the active ingredient hydroxamic acid derivs. (I) or equivalent thereto, non-toxic salts thereof or prodrugs of the same [R1 = C1-8 alkyl, C2-8 alkenyl or alkynyl, halo, NO2, cyano, CF3, CF3O, OR2, SR2, NR3R4, keto, cyclic group, COR5, SO2R10, SOR10, etc. (wherein R2-R4 = H, C1-8 alkyl, C2-9 acyl, cyclic group; R5 = HO, C1-8 alkyl or alkoxy, optionally substituted NH2, cyclic group; R10 = C1-8 alkyl, cyclic group); A = single bond, C3-15 mono-, di-, or tricyclic carbocyclic ring, 5- to 18-membered mono-, di-, or tricyclic heterocyclic ring containing 1-4 N, 1-2 O and/or 1-2 S atoms; E = a single bond, C1-8 alkylene, C2-8 alkenylene or alkynylene, O, SO2NH, NHSO2, CONH, NHCO, etc.; B = s single bond, C5-15 mono-, di-, or tricyclic carbocyclic ring; 5- to 18-membered mono-, di-, or tricyclic heterocyclic ring containing 1-4 N, 1-2 O and/or 1-2 S atoms; R8 = C1-8 alkyl or alkoxy, halo, NO2, cyano, CF3, CF3O, HO, C1-8 hydroxyalkyl; when E is a single bond, R1 and R8 together represents a C1-4 alkylene; n = an integer of 1-5; G = a single bond, (un)substituted NHCO or CONH, O, S, SO, SO2, (un)substituted SO2NH, CO, etc.; L = C1-8 alkylene, C2-8 alkenylene or alkynylene, C2-8 alkenylene-C2-8 alkynylene, C2-8 alkylene-C2-8 alkenylene, etc.; Q = (un)substituted CONHOH, oxiranylcabonyl, (un)substituted SH, P(O)(OH)2 or its C1-4 alkyl ester; some proviso are given] are claimed. Because of having an IL-6 production inhibitory activity, the compds. of the general formula I are useful as preventives and/or remedies for various inflammatory diseases, sepsis, multiple myeloma, plasmacytoid leukemia, osteoporosis, cachexia, psoriasis, nephritis, kidney cell cancer, Kaposi's sarcoma, rheumatoid arthritis, hypergamma globulinemia, Castleman's disease, intra-atrial myxoma, diabetes, autoimmune diseases, hepatitis, colitis, graft-vs.-host disease, infections, endometriosis and solid cancer. The solid cancer include brain tumor, head and neck cancer, thyroid gland cancer, esophageal cancer, stomach cancer, colorectal cancer (colon cancer and rectum cancer), liver cancer, gallbladder cancer, bile duct cancer (cholangioma), pancreatic cancer, lung cancer, breast cancer, cervical cancer, uterine cancer, ovarian cancer, prostatic cancer, testicular tumor, bladder cancer, renal pelvis tumor, ureteral tumor, adrenal cancer (hypernephroma), neuroma, glioma, bone tumor, rhabdomyosarcoma, osteosarcoma, soft tissue tumor, eosinophilic granuloma, malignant melanoma, skin cancer, Wilms's tumor, etc. Thus, to a solution of 2.24 g 6-[(4-phenylbenzoyl)amino]hexanoic acid in 42 mL DMF were successively added 1-hydroxybenzotriazole hydrate 1.65, Et3N 2.91, 1-ethyl-3-(3-dimethylaminopropyl)carbodiimide hydrochloride 2.07, and N-(1-methyl-1-methoxyethoxy)amine 1.14 g and stirred at room temperature for 4 h to give 1.79 g N-(1-methyl-1-methoxyethoxy)-6-[(4-phenylbenzoyl)amino]hexanamide which (1.78 g) was dissolved in 4.5 m MeOH and stirred with 4.5 mL 2 N aqueous HCl at room temperature to give			

N-hydroxy-6-[(4-phenylbenzoyl)amino]hexanamide (II). II in vitro inhibited the production of IL-6 in human lung epithelial cell A549 with IC50 of 0.18  $\mu$ M. A tablet and an ampule formulation containing II were prepared

## MSTR 1

G1—G9  
1

G1 = carbocycle <containing 3-15 C, 1-3 rings>  
(opt. substd.) / heterocycle <containing 5-18 atoms, 0-4 N,  
0-2 O, 0-2 S (no other heteroatoms), 1-3 rings>  
(opt. substd.) / 5 / 9 / (Example: 87)

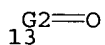


G2 = carbocycle <containing 3-15 C, 1-3 rings>  
(opt. substd.) / heterocycle <containing 5-18 atoms, 0-4 N,  
0-2 O, 0-2 S (no other heteroatoms), 1-3 rings>  
(opt. substd.)

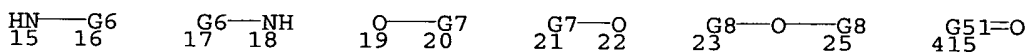
G3 = carbocycle <containing 3-15 C, 1-3 rings>  
(opt. substd.) / heterocycle <containing 5-18 atoms, 0-4 N,  
0-2 O, 0-2 S (no other heteroatoms), 1-3 rings>  
(opt. substd.) / 7 / 11



G4 = carbocycle <containing 3-15 C, 1-3 rings>  
(opt. substd.) / heterocycle <containing 5-18 atoms, 0-4 N,  
0-2 O, 0-2 S (no other heteroatoms), 1-3 rings>  
(opt. substd.) / 13



G5 = alkylene <containing 1-8 C> /  
alkenylene <containing 2-8 C> /  
alkynylene <containing 2-8 C> / 0 / 15-9 16-12 /  
17-9 18-12 / 19-9 20-12 / 21-9 22-12 / 23-9 25-12 / 415



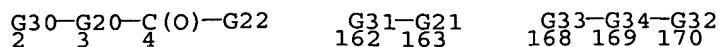
G6 = SO<sub>2</sub> / C(O)

G7 = carbon chain <containing 1-7 C,  
0 or more double bonds, 0 or more triple bonds>

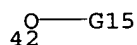
G8 = carbon chain <containing 1-6 C,  
0 or more double bonds, 0 or more triple bonds>

G9 = 162 / 2 / 168

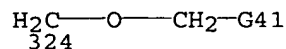




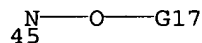
- G10 = H / alkyl <containing 1-4 C>  
 G11 = H / alkyl <containing 1-8 C> /  
       alkoxycarbonyl <containing 1-4 C> / (Example: CO2Bu-t)  
 G12 = alkylene <containing 1-4 C> / (Example: CH2)  
 G13 = H / OH / carbon chain <containing 1-8 C,  
       0 or more double bonds, 0 or more triple bonds>  
       (opt. substd.) / alkoxy <containing 1-8 C> (opt. substd.)  
 G14 = 42 / Ph (opt. substd.)



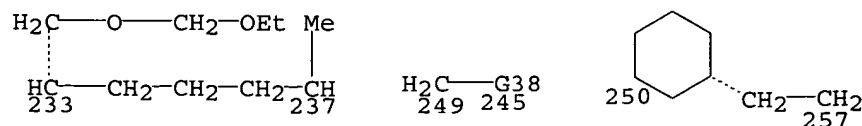
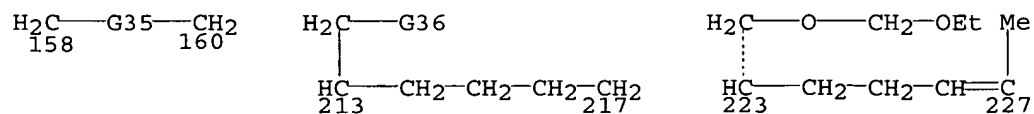
- G15 = H / carbon chain <containing 1-8 C,  
       0 or more double bonds, 0 or more triple bonds>  
       (opt. substd.) / (Examples: Me / 324)

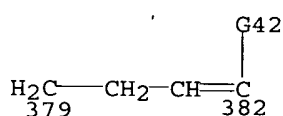
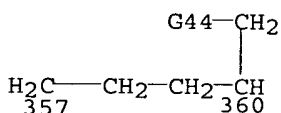
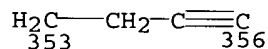
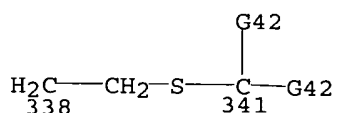
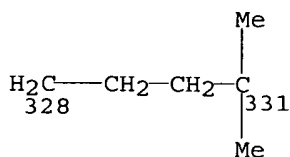
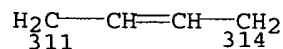
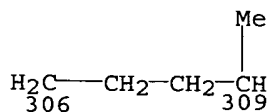
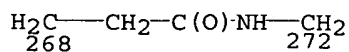
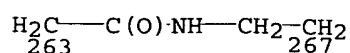
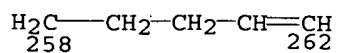


- G16 = O / 45

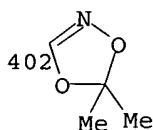
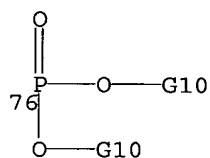
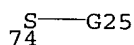
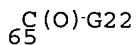


- G17 = H / alkyl <containing 1-8 C> /  
       alkenyl <containing 2-8 C> / alkynyl <containing 2-8 C> /  
       alkyl <containing 1-7 C> (substd. by alkoxy <containing 1-7  
       C>)  
 G18 = (0-2) CH2 (opt. substd.)  
 G19 = H / R  
 G20 = carbon chain <containing 1-16 C,  
       0 or more double bonds, 0 or more triple bonds>  
       (opt. substd.) / (Examples: 158-2 160-4 / 213-2 217-4 /  
       223-2 227-4 / 233-2 237-4 / 249-2 245-4 / 250-2 257-4 /  
       258-2 262-4 / **263-2 267-4** / 268-2 272-4 / 306-2 309-4 /  
       311-2 314-4 / 328-2 331-4 / 338-2 341-4 / 353-2 356-4 /  
       357-2 360-4 / p-C6H4 / 379-2 382-4 / CH2)

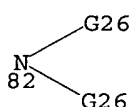
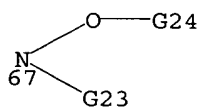




G21 = 65 / 74 / 76 / (Example: 402)



G22 = 67 / 71 / 82



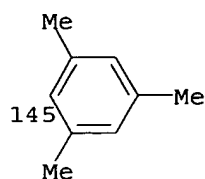
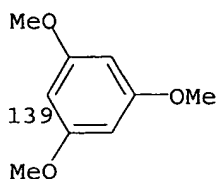
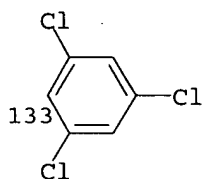
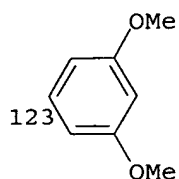
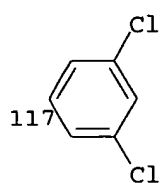
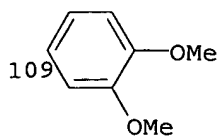
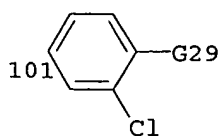
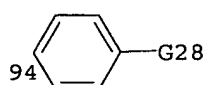
G23 = H / alkyl <containing 1-8 C>

G24 = H / alkyl <containing 1-8 C> /  
alkyl <containing 1-7 C> (substd. by alkoxy <containing 1-7 C>)

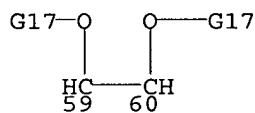
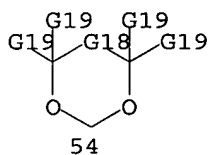
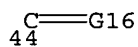
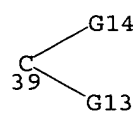
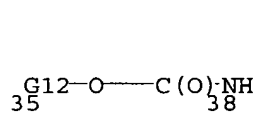
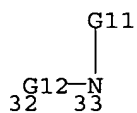
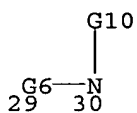
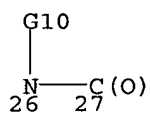
G25 = H / alkyl <containing 1-8 C> /  
alkylcarbonyl <containing 1-8 C>

G26 = H / alkyl <containing 1-8 C> / NH2 /  
alkylamino <containing 1-8 C> /  
dialkylamino <each alkyl containing 1-8 C>

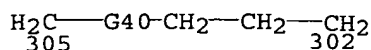
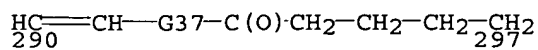
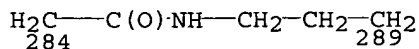
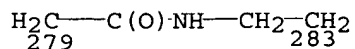
G27 = 94 / 101 / 109 / 117 / 123 / 133 / 139 / 145 / H /  
R

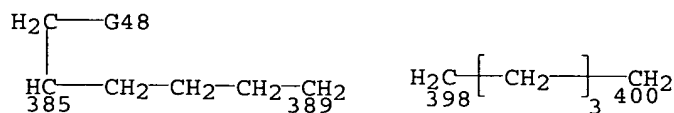
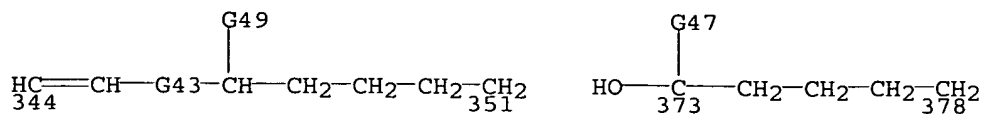
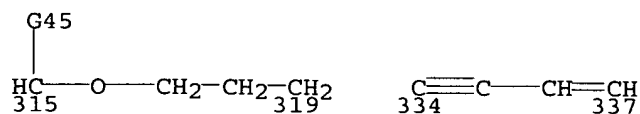


G28 = F / CF3 / NMe2 / OMe / OH / CN / CO2Me /  
morpholino / piperidino / piperazino / H / R  
G29 = Cl / OMe  
G30 = 26-1 27-3 / 29-1 30-3 / O / S / S(O) / SO2 / 44 /  
32-1 33-3 / 35-1 38-3 / 39 / 54 / 59-1 60-3

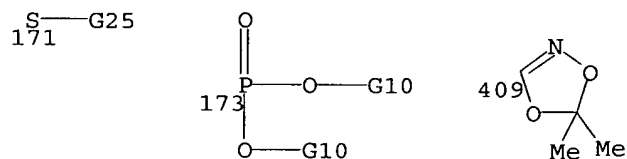


G31 = carbon chain <containing 1-16 C,  
0 or more double bonds, 0 or more triple bonds>  
(opt. substd.) / (Examples: 279-1 283-163 / 284-1 289-163 /  
290-1 297-163 / 305-1 302-163 / 315-1 319-163 /  
334-1 337-163 / 344-1 351-163 / 373-1 378-163 /  
385-1 389-163 / 398-1 400-163 )

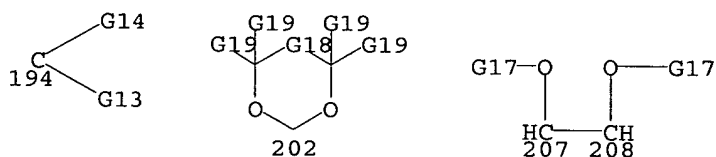
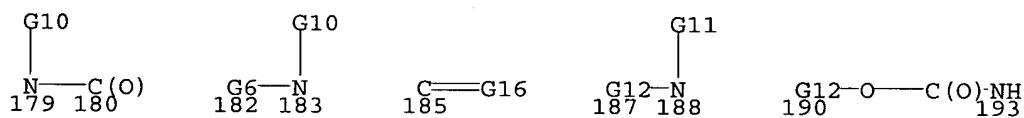




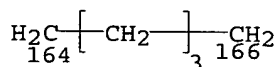
G32 = 171 / 173 / (Example: 409)



G33 = 179-1 180-169 / 182-1 183-169 / O / S / S(O) /  
SO2 / 185 / 187-1 188-169 / 190-1 193-169 / 194 / 202 /  
207-1 208-169

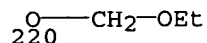


G34 = carbon chain <containing 1-16 C,  
0 or more double bonds, 0 or more triple bonds>  
(opt. substd.) / (Examples: 164-168 166-170 / CH2CH2CH2CH2)



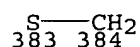
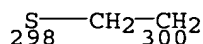
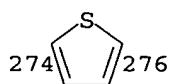
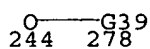
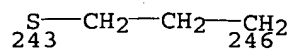
G35 = (0-4) CH2

G36 = 220 / OH



G37 = (0-1) CH=CH

G38 = p-C<sub>6</sub>H<sub>4</sub> / 274-249 276-4 / 243-249 246-4 /  
244-249 278-4 / 298-249 300-4 / 383-249 384-4



G39 = m-C<sub>6</sub>H<sub>4</sub> / p-C<sub>6</sub>H<sub>4</sub>

G40 = O / S

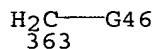
G41 = H / Ph

G42 = H / Me

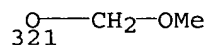
G43 = (0-1) CH=CH

G44 = H / 4-pyridyl

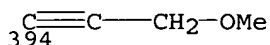
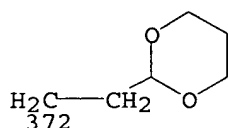
G45 = 363 / H



G46 = 321 / OH



G47 = 372 / 394



G48 = OH / H

G49 = OH / OMe

G50 = carbocycle <containing 5-15 C, 1-3 rings>  
(opt. substd.) / heterocycle <containing 5-18 atoms, 0-4 N,  
0-2 O, 0-2 S (no other heteroatoms), 1-3 rings>  
(opt. substd.)

G51 = carbon chain <containing 1-8 C,  
0 or more double bonds, 0 or more triple bonds>

Patent location:

claim 1

Note: and non-toxic salts or prodrugs

Note: substitution is restricted

Note: additional ring formation also claimed

Note: interruptions also claimed

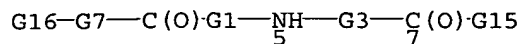
REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 67 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 137:125845 MARPAT  
TITLE: Hindered amine light stabilizers based on multi-functional carbonyl compounds and methods of making same  
INVENTOR(S): Sassi, Thomas P.; Gupta, Ram B.  
PATENT ASSIGNEE(S): USA  
SOURCE: U.S. Pat. Appl. Publ., 38 pp., Cont.-in-part of U.S. Ser. No. 704,793.  
CODEN: USXXCO  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

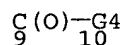
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002099218	A1	20020725	US 2001-45333	20011025
US 6492521	B2	20021210		
CA 2427638	AA	20020725	CA 2001-2427638	20011026
WO 2002057232	A2	20020725	WO 2001-US49873	20011026
WO 2002057232	A3	20031030		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
BR 2001015099	A	20031230	BR 2001-15099	20011026
EP 1414799	A2	20040506	EP 2001-994383	20011026
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
JP 2005510446	T2	20050421	JP 2002-557913	20011026
TW 583180	B	20040411	TW 2001-90127238	20011102
US 2003083498	A1	20030501	US 2002-191180	20020709
ZA 2003002883	A	20040227	ZA 2003-2883	20030411
PRIORITY APPLN. INFO.:				
			US 2000-704793	20001103
			US 2001-45333	20011025
			WO 2001-US49873	20011026

AB Compds. and methods of preparing compds. of the formula: abcdnm wherein n is an integer from 1 to 15, m is either 0 or 1; Ra, Rb, Rc, and R<sup>up°d</sup> "up° are each a hydrogen or a hydrocarbyl group; Y is CO-(CReRf)p, wherein R<sup>up°e</sup> "up° and R<sup>up°f</sup> "up° are each a hydrogen or hydrocarbyl group and p is zero or an integer from 1 to 20 or CO-C6H4-, wherein the substitution pattern on the phenylene group is an ortho, meta, or para substitution pattern and one or more of the hydrogens of the phenylene group may be substituted by a hydrocarbyl group or a functional group; Z is -O- or -NG-, wherein G is H, C1-C12 alkyl or the radical R; wherein R is wherein R<sup>up°1</sup> "up° is hydrogen, C1-C18 alkyl, O, OH, CH2CN, C1-C18 alkoxy, C-C18 hydroxyalkoxy, C5-C12 cycloalkoxy, C5-C12 hydroxycycloalkoxy, C3-C6 alkenyl, C1-C18 alkynyl, C7-C9 phenylalkyl, unsubstituted or substituted on the Ph with 1, 2 or 3

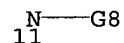
C1-C4 alkyls, or an aliphatic C1-C8 acyl; R<sup>up</sup>2 "up" is hydrogen, C1-C8 alkyl, or benzyl; R3, R4, R5, and R<sup>up</sup>6 "up" are each a hydrogen, C1-C8 alkyl, benzyl or phenethyl, or two geminal R moieties, which together with the carbon to which they are attached form a C5-C10 cycloalkyl; and A is either ZR or a hydrocarbyl group, which are useful for stabilizing polymer compns. against photo- and thermal degradation

**MSTR 1**

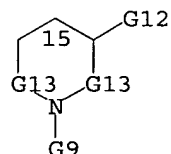
G1 = alkylene <containing 2-16 C, unbranched>  
(opt. substd. by hydrocarbyl) / G2  
G2 = (2-16) CH2 (opt. substd.)  
G3 = 9-5 10-7 / C(O) / bond



G4 = alkylene <containing 1-20 C, unbranched>  
(opt. substd. by hydrocarbyl) / G5 /  
phenylene (opt. substd. by G6)  
G5 = (1-20) CH2  
G6 = hydrocarbyl / R <"functional group">  
G7 = O / 11



G8 = H / alkyl <containing 1-12 C> / 15

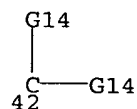


G9 = H / alkyl <containing 1-18 C> / O / OH / 27 /  
alkoxy <containing 1-18 C> / alkoxy <containing 1-18 C>  
(substd. by OH) / cycloalkyloxy <containing 5-12 C> /  
cycloalkyloxy <containing 5-12 C> (substd. by OH) /  
alkenyl <containing 3-6 C> / alkynyl <containing 1-18 C> /  
alkyl <containing 1-3 C> (substd. by G10) / 29 /  
(Specifically claimed: Me)

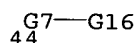


G10 = Ph (opt. substd. by (1-3) alkyl <containing 1-4 C>)  
G11 = H / carbon chain <containing 1-8 C> /  
carbocycle <containing 3-8 C> / R

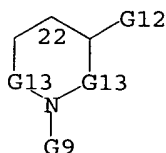
G12 = H / alkyl <containing 1-8 C> / CH<sub>2</sub>Ph  
 G13 = 42 / cycloalkylene <containing 5-10 C,  
 attached through 1 C>



G14 = H / alkyl <containing 1-8 C> / CH<sub>2</sub>Ph / CH<sub>2</sub>CH<sub>2</sub>Ph /  
 (Specifically claimed: Me)  
 G15 = 44 / hydrocarbonyl



G16 = 22



Patent location: claim 1  
 Note: oxygen alternative in G9 is free radical

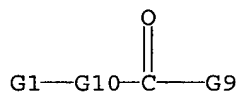
L71 ANSWER 68 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 137:79227 MARPAT  
 TITLE: Novel functional peptide nucleic acid monomer and  
 process for producing the same  
 INVENTOR(S): Ikeda, Hisafumi; Saito, Isao; Kitagawa, Fumihiko  
 PATENT ASSIGNEE(S): Applied Biosystems Japan Ltd., Japan  
 SOURCE: PCT Int. Appl., 63 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002051797	A1	20020704	WO 2001-JP8120	20010919
W: JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
EP 1357112	A1	20031029	EP 2001-970133	20010919
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
US 2004101839	A1	20040527	US 2003-250592	20031224
PRIORITY APPLN. INFO.:				
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			WO 2001-JP8120	20010919

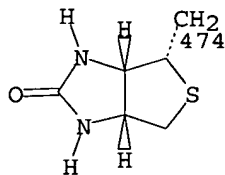
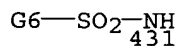
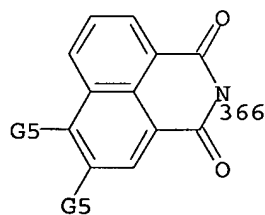
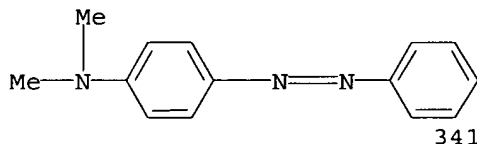
OTHER SOURCE(S): CASREACT 137:79227  
 AB A peptide nucleic acid (PNA) monomer represented by the following general  
 formula A-(CH<sub>2</sub>)<sub>n</sub>CO-B [I; wherein A = Q or Q1 (wherein X = OH, Z = O; X =

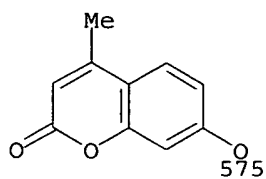
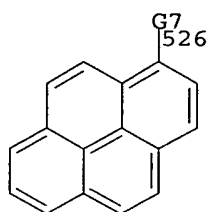
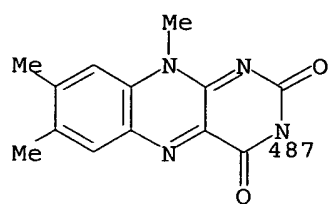


NH<sub>2</sub>, Z = H<sub>2</sub>N<sup>+</sup>; or X = NMe<sub>2</sub>, Z = Me<sub>2</sub>N<sup>+</sup>), Q<sub>2</sub>, Q<sub>3</sub>, Q<sub>4</sub> (wherein R = hydrogen, NO<sub>2</sub>, NH<sub>2</sub>, NHCbz, bromine, fluorine, chlorine, or SO<sub>3</sub>Na<sub>2</sub>), Q<sub>5</sub>, 3-(4-dimethylaminophenylazo)phenyl, 4-(4-dimethylaminophenylazo)phenylsulfonfylamino, 2-(4-hydroxyphenylazo)benzoylamino, 5-dimethylaminonaphthalenesulfonylamino, 1-pyrenecarbonyl, 1-pyrenylmethyl, 1-pyrenesulfonylamino, 6,7,8-trimethyl-1,3-dioxo-2,5-dihydro-2,4-diazaphenazin-2-yl, 4-methylcoumarin-7-ylaminocarbonyl, 4-trifluoromethylcoumarin-7-ylaminocarbonyl, 4-methyl-2-oxo-1,2-dihydroquinoin-7-ylaminocarbonyl, 2-oxo-1,2-dihydroquinoin-3-ylaminocarbonyl, etc.; B is OH, pentafluorophenylloxy, succinimidyloxy, N-carboxymethyl-N-[2-(tert-butoxycarbonylamino)ethyl]amino; n = an integer of 1 to 4] is prepared A PNA monomer I [A, N = same as above; B = N-carboxymethyl-N-[2-(tert-butoxycarbonylamino)ethyl]amino] is prepared by amidation of an active ester I (A, n = same as above; B = pentafluorophenylloxy, succinimidyloxy) with tert-butoxycarbonylaminoethylamine or an ω-amino acid derivative, in particular 2-[N-[2-(tert-butoxycarbonylamino)ethyl]amino]acetic acid (II). This process is convenient for the preparation of a photofunctional PNA monomer which is unstable under alkali condition. Thus, to a solution of 100 mg 2-(5,7,8-trimethyl-1,3-dioxo-2,5-dihydro-2,4-diazaphenazin-2-yl)acetic acid and 70.2 mg pentafluorophenol in 10 mL DMF was added 73.2 mg 1-ethyl-3-(3-dimethylaminopropyl)carbodiimide hydrochloride (EDC) at 0° and stirred at 0° for 1 h and at room temperature for 12 h to give 85% 2,3,4,5,6-pentafluorophenyl 2-(5,7,8-trimethyl-1,3-dioxo-2,5-dihydro-2,4-diazaphenazin-2-yl)acetate (III). To a solution of the active ester III (100 mg) and 45.4 mg II in 10 mL DMF was added 36.3 μL diisopropylethylamine and stirred at room temperature for 15 h to give 85% 2-[N-[2-(tert-butoxycarbonylamino)ethyl]-2-[(5,7,8-trimethyl-1,3-dioxo-2,5-dihydro-2,4-diazaphenazin-2-yl)acetyl]amino]acetic acid.

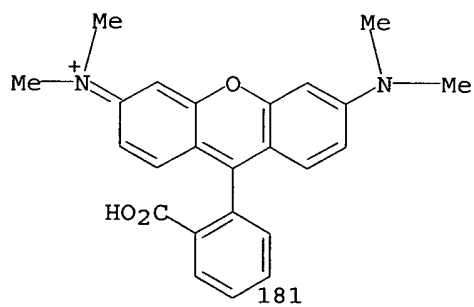
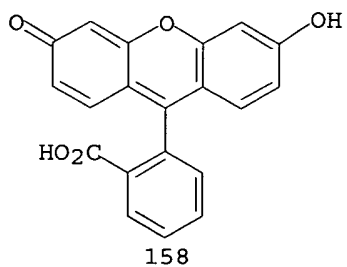
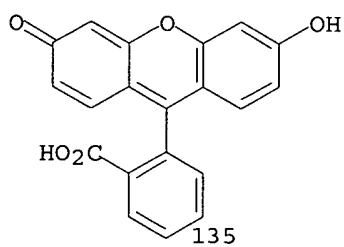
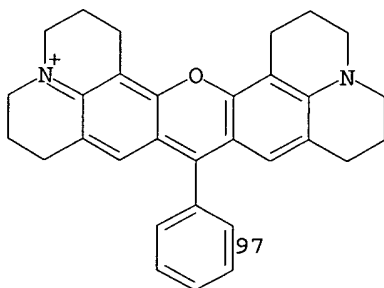
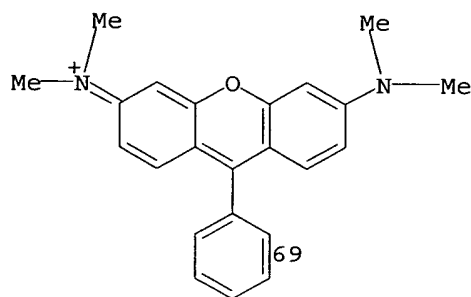
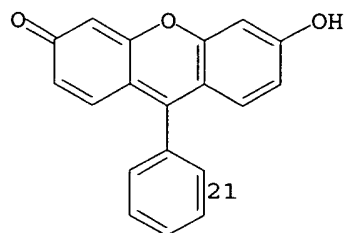
**MSTR 1**

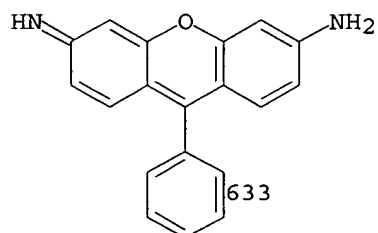
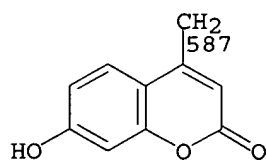
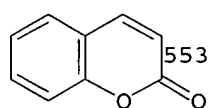
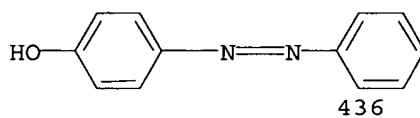
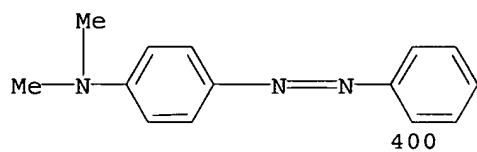
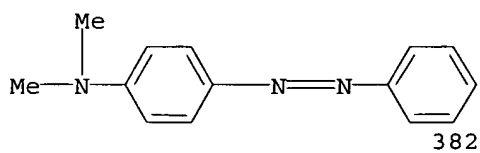
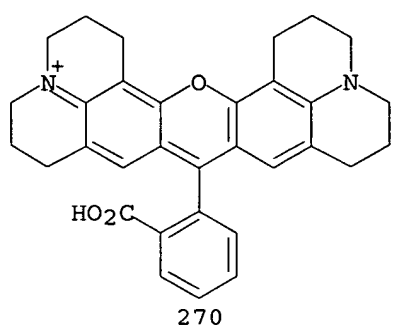
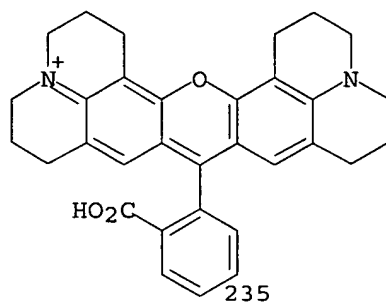
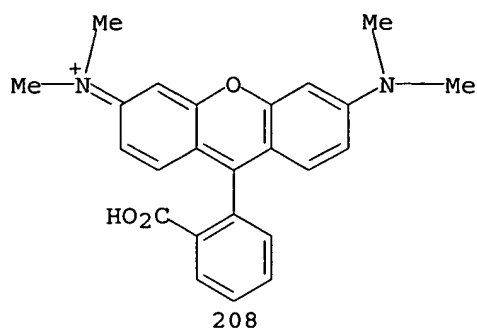
G1 = 27 / 289 / 341 / 366 / 431 / 474 / 487 / 526 / 575

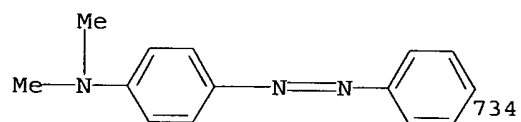
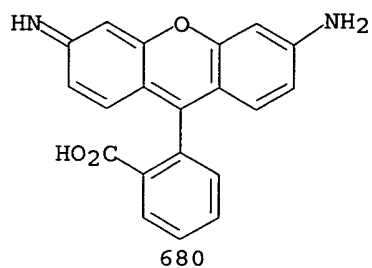
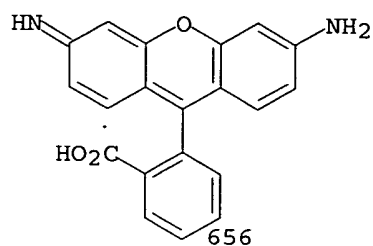




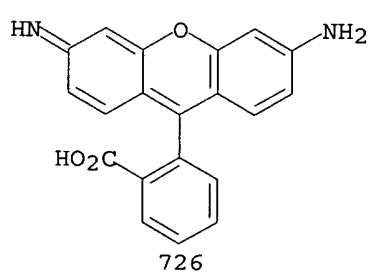
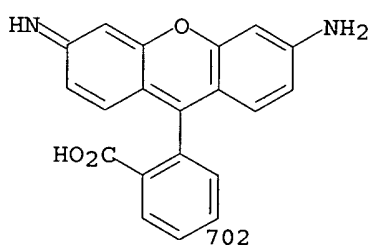
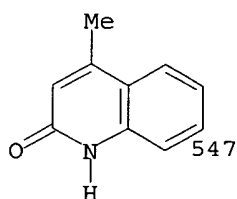
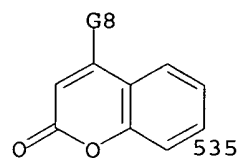
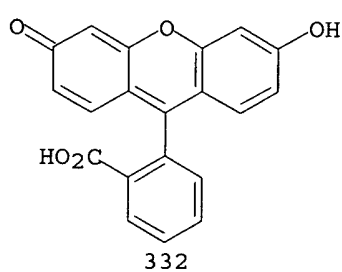
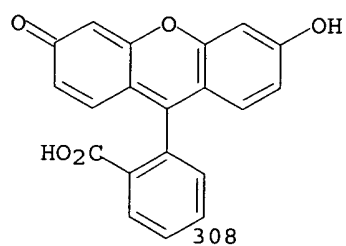
G2 = 21 / 633 / 69 / 97 / 135 / 158 / 656 / 680 / 181 /  
208 / 235 / 270 / 382 / 400 / 734 / 436 / 553 / 587



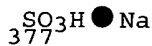
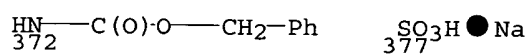




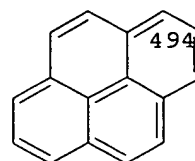
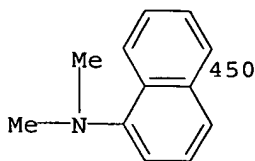
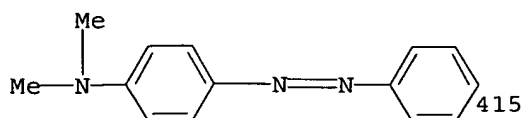
G4 = 308 / 332 / 702 / 726 / 535 / **547**



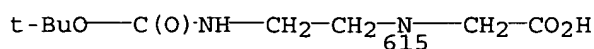
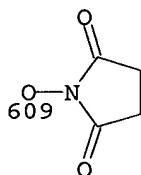
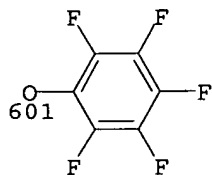
G5 = 1 or more H / NO2 / NH2 / 372 / Br / F / Cl / 377



G6 = 415 / 450 / 494



G7 = C(O) / CH2  
 G8 = Me / CF3  
 G9 = OH / 601 / 609 / 615



G10 = (1-4) CH2

Patent location:

claim 12

Note:

substitution is restricted

REFERENCE COUNT:

14

THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 69 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER:

137:47448 MARPAT

TITLE:

Preparation of substituted phenylalaninol derivatives as protein tyrosine phosphatase inhibitors

INVENTOR(S):

Larsen, Scott D.; May, Paul D.; Bleasdale, John E.; Liljebris, Charlotta; Schostarez, Heinrich Josef; Barf, Tjeerd; Nilsson, Marianne

PATENT ASSIGNEE(S):

USA

SOURCE:

U.S., 144 pp., Cont.-in-part of U.S. Ser. No. 138,642. CODEN: USXXAM

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6410585	B1	20020625	US 1999-265410	19990310
US 6353023	B1	20020305	US 1998-138642	19980824
CA 2366308	AA	20000914	CA 2000-2366308	20000309
WO 2000053583	A1	20000914	WO 2000-US6022	20000309
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1161421	A1	20011212	EP 2000-917793	20000309
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IE, SI, LT, LV, FI, RO

JP 2002539115 T2 20021119

AU 769511 B2 20040129

PRIORITY APPLN. INFO.:

JP 2000-604023 20000309

AU 2000-38711 20000309

US 1997-57730P 19970828

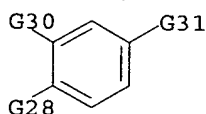
US 1998-138642 19980824

US 1999-265410 19990310

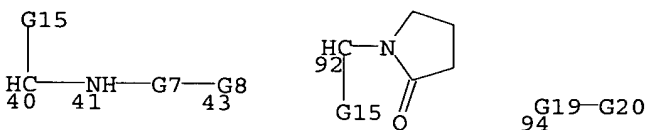
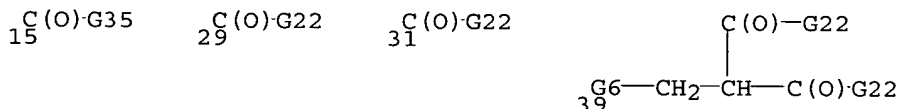
WO 2000-US6022 20000309

AB The invention comprises phenylalaninol derivs., e.g., I [R1 = OSO3H, OCH(CO2R5)2, OCH2CO2R5, OCH(CO2R5)CH2CO2R5, OC(CO2R5):CHCO2R5, CH2CH(CO2R5)2, CH:C(CO2R5)2, OCH2CONHOH, N(CH2CO2R5)2, OCHFCO2R5 (R5 = H, alkyl, alkylphenyl); R2 = CHR7NHXR6, group Q (R6 = alkyl, alkyl-CONH2, alkyl-NHCO2R5, etc.; R7 = H, any group given for R6); R10 = H, CO2R5, CONHOH, 5-tetrazolyl, F, OCH2CO2R5], or their pharmaceutically acceptable salts, as small mol. weight, non-peptidic inhibitors of protein tyrosine phosphatase 1 (PTP1) which are useful for the treatment and/or prevention of non-insulin dependent diabetes mellitus. Thus, 5-[(2S)-2-[(2S)-2-[(tert-butoxycarbonyl)amino]-3-phenylpropanoyl]amino]-3-hydroxypropyl]-2-(carboxymethoxy)benzoic acid (claimed compound) was prepared and showed 80% inhibition of protein tyrosine phosphatase 1B at a concentration of 10  $\mu$ M.

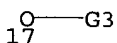
## MSTR 1



G1 = alkyl <containing 1-10 C>  
 (opt. substd. by (1-2) 15) / cycloalkyl <containing 3-8 C>  
 (opt. substd. by (1) 29) / Ph (opt. substd. by (1-2) 31) /  
 39 / 40 / 92 / 94

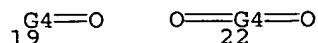


G2 = OH / 17



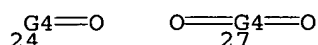
G3 = alkyl <containing 1-18 C> /  
 alkenyl <containing up to 18 C> / Ph (opt. substd.) /  
 naphthyl / heterocycle <containing 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), mono- or bicyclic,  
 including 5- or 6-membered rings> (opt. substd.) / 19 / 22 /

alkyl <containing 1-6 C> (substd. by G5)



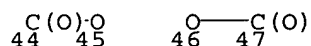
G4 = heterocycle <containing 1-4 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), mono- or bicyclic,  
including 5- or 6-membered rings> (opt. substd.)

G5 = Ph (opt. substd.) / naphthyl /  
heterocycle <containing 1-4 heteroatoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms),  
mono- or bicyclic, including 5- or 6-membered rings>  
(opt. substd.) / 24 / 27

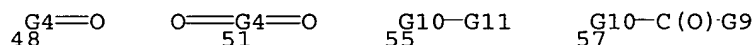


G6 = phenylene

G7 = C(O) / SO<sub>2</sub> / 44-41 45-43 / 46-41 47-43



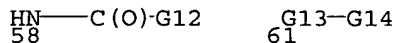
G8 = alkyl <containing 1-10 C> / Ph (opt. substd.) /  
naphthyl / heterocycle <containing 1-4 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), mono- or bicyclic,  
including 5- or 6-membered rings> (opt. substd.) / 48 / 51 /  
alkyl <containing 1-6 C> (substd. by G5) / 57 / 55



G9 = NH<sub>2</sub> / OH / alkoxy <containing 1-10 C> /  
alkoxy <containing 1-5 C> (substd. by Ph)

G10 = alkylene <containing 1-6 C>

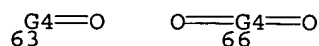
G11 = 58 / OH / alkoxy <containing 1-10 C> /  
alkoxy <containing 1-5 C> (substd. by Ph) / NHSO<sub>2</sub>Me / 61



G12 = OH / alkoxy <containing 1-10 C> /  
alkoxy <containing 1-5 C> (substd. by Ph)

G13 = O / S

G14 = Ph (opt. substd.) / naphthyl /  
heterocycle <containing 1-4 heteroatoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms),  
mono- or bicyclic, including 5- or 6-membered rings>  
(opt. substd.) / 63 / 66



G15 = H / 71 / 72 / alkyl <containing 1-10 C> /  
cycloalkyl <containing up to 10 C>

$\begin{array}{c} \text{G10}-\text{C}(\text{O})-\text{G9} \\ 71 \end{array}$        $\begin{array}{c} \text{G10}-\text{G16} \\ 72 \end{array}$

G16 = Ph (opt. substd.) / naphthyl /  
heterocycle <containing 1-4 heteroatoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms),  
mono- or bicyclic, including 5- or 6-membered rings>  
(opt. substd.) / 74 / 77 / 79 / SH / 82 / 84

$\begin{array}{c} \text{G4}=\text{O} \\ 74 \end{array}$        $\begin{array}{c} \text{O}=\text{G4}=\text{O} \\ 77 \end{array}$        $\begin{array}{c} \text{HN}-\text{C}(\text{O})-\text{G12} \\ 79 \end{array}$        $\begin{array}{c} \text{S}-\text{OH} \\ 82 \end{array}$        $\begin{array}{c} \text{G17}-\text{G18} \\ 84 \end{array}$

G17 = S / S(O)  
G18 = alkyl <containing 1-10 C> /  
alkyl <containing 1-5 C> (substd. by Ph)  
G19 = NH / 96

$\begin{array}{c} \text{N}-\text{G3} \\ 96 \end{array}$

G20 = Ph (opt. substd.) / naphthyl /  
heterocycle <containing 1-4 heteroatoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms),  
mono- or bicyclic, including 5- or 6-membered rings>  
(opt. substd.) / 239 / 242 / alkyl <containing 1-6 C>  
(substd. by G5) / 98

$\begin{array}{c} \text{G15} \\ | \\ \text{HC}-\text{G21}-\text{C}(\text{O})-\text{G22} \\ 98 \quad 103 \end{array}$        $\begin{array}{c} \text{G4}=\text{O} \\ 239 \end{array}$        $\begin{array}{c} \text{O}=\text{G4}=\text{O} \\ 242 \end{array}$

G21 = bond / CH2 / 105-98 107-103

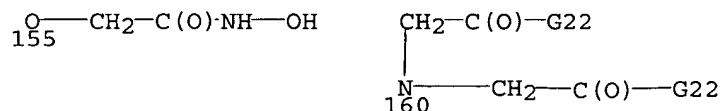
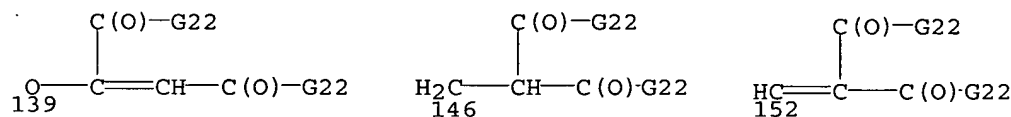
$\begin{array}{c} \text{C}(\text{O})-\text{NH}-\text{CH}_2 \\ 105 \quad 107 \end{array}$

G22 = OH / alkoxy <containing 1-10 C> /  
alkoxy <containing 1-5 C> (substd. by Ph)  
G23 = 108 / H / CH2OH / 115

$\begin{array}{c} \text{C}(\text{O})-\text{NH}-\text{G24} \\ 108 \end{array}$        $\begin{array}{c} \text{HC}=\text{CH}-\text{G24} \\ 115 \end{array}$

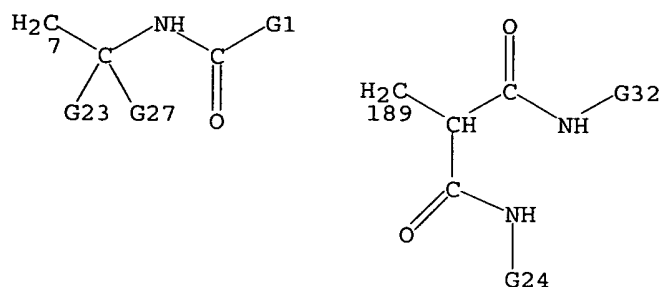
G24 = alkyl <containing 1-12 C> (substd. by G25) /  
alkyl <containing 1-4 C> (substd. by cycloalkyl <containing  
3-6 C>) / alkenyl <containing 2-12 C> /  
alkynyl <containing 3-12 C> / Ph (opt. substd.) / naphthyl /  
heterocycle <containing 1-4 heteroatoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms),



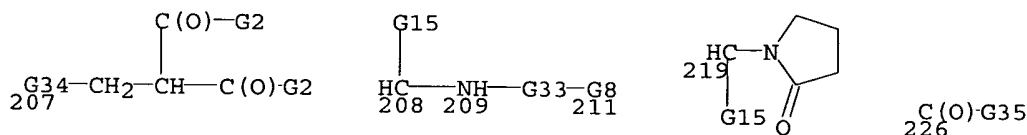
$$\begin{array}{ccc} \text{G26} & & \\ | & & \\ \text{HC} - \text{C}(\text{O}) - \text{NH}_2 & \quad \text{G4} = \text{O} & \quad \text{O} = \text{G4} = \text{O} \\ 111 & 234 & 237 \end{array}$$
$$\begin{array}{ccc} \begin{array}{c} \text{G29} \\ | \\ \text{O}-\text{CH}-\text{C}(\text{O})-\text{G22} \\ 122 \end{array} & \begin{array}{c} \text{C}(\text{O})-\text{G22} \\ | \\ \text{O}-\text{CH}-\text{C}(\text{O})-\text{G22} \\ 126 \end{array} & \begin{array}{c} \text{C}(\text{O})-\text{G22} \\ | \\ \text{O}-\text{CH}-\text{CH}_2-\text{C}(\text{O})-\text{G22} \\ 132 \end{array} \end{array}$$


$^{175}\text{C}(\text{O})\text{NH}\text{---}\text{OH}$ 
 $^{179}\text{N}$ 
 $^{184}\text{O}\text{---}\text{CH}_2\text{---}\text{C}(\text{O})\text{---}\text{G22}$

Page 547



G32 = alkyl <containing 1-10 C>  
 (opt. substd. by (1-2) 226) / cycloalkyl <containing 3-8 C>  
 (opt. substd. by (1) 228) / Ph (opt. substd. by (1-2) 230) /  
 207 / 208 / 219



G33 = C(O) / SO<sub>2</sub> / 221-209 222-211 / 223-209 224-211



G34 = phenylene

G35 = OH / alkoxy <containing 1-10 C> /  
 alkoxy <containing 1-5 C> (substd. by Ph) / NH<sub>2</sub>

Patent location:

claim 1

Note:

or pharmaceutically acceptable salts

Note:

substitution is restricted

Note:

also incorporates broader disclosure

REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 70 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 136:369608 MARPAT

TITLE: Preparation of 3-(N'-oxodihydropyridinylureido)-3-  
 phenylpropanoates as inhibitors of α4β1  
 integrin binding

INVENTOR(S): Biediger, Ronald J.; Chen, Qi; Holland, George W.;  
 Kassir, Jamal M.; Li, Wen; Market, Robert V.; Scott,  
 Ian L.; Wu, Chengde; Decker, Radford E.; Li, Jian

PATENT ASSIGNEE(S): Texas Biotechnology Corporation, USA

SOURCE: Eur. Pat. Appl., 131 pp.

CODEN: EPXXDW

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT: 3

## PATENT INFORMATION:

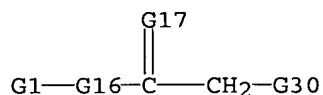
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1203766	A2	20020508	EP 2001-125494	20011106
EP 1203766	A3	20041208		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2004063955	A1	20040401	US 2001-973142	20011009
US 6972296	B2	20051206		
ZA 2001008777	A	20030124	ZA 2001-8777	20011024
BR 2001006840	A	20050201	BR 2001-6840	20011106

## PRIORITY APPLN. INFO.:

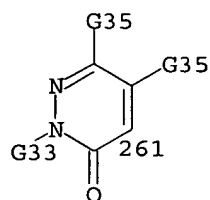
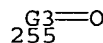
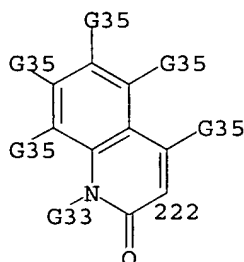
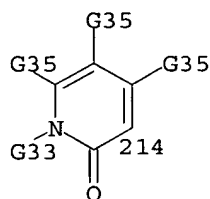
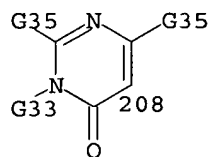
US 2000-707068	20001106
US 2001-973142	20011009
US 1999-132971P	19990507
US 2000-565920	20000505

AB Title compds. were prepared Thus, 2-ClC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>ZNH<sub>2</sub> (Z = 4-ethyl-2-oxo-1,2-dihydropyridine-1,3-diyl) (preparation given) was condensed with (S)-4-MeC<sub>6</sub>H<sub>4</sub>CH(NH<sub>2</sub>)CH<sub>2</sub>CO<sub>2</sub>Et and COCl<sub>2</sub> to give, after saponification, (S)-2-ClC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>ZNHCONHCH(C<sub>6</sub>H<sub>4</sub>Me-4)CH<sub>2</sub>CO<sub>2</sub>H (Z as above). Data for biol. activity of title compds. were given.

## MSTR 1B



G1 = carbocycle <containing 4 or more C,  
0 or more double bonds> (opt. substd.) /  
heterocycle <containing 4 or more atoms,  
0 or more double bonds> (opt. substd.) / 255 /  
(Specifically claimed: 208 / 214 / 222 / 261)



- G2 = H / R / aryl <containing 6-12 C>  
 (opt. substd. by G12) / heteroaryl <containing zero or more  
 O, zero or more S, zero or more N> (opt. substd. by G12) /  
 alkyl <containing 1-12 C> (substd. by 1 or more G11) /  
 heterocycle <containing 3-10 atoms, zero or more O,  
 zero or more S, zero or more N> (opt. substd. by G12) /  
 alkyl <containing 1-12 C> (substd. by G27) /  
 (Specifically claimed: Ph (opt. substd.))
- G3 = carbocycle <containing 4 or more C,  
 0 or more double bonds> (opt. substd.) /  
 heterocycle <containing 4 or more atoms,  
 0 or more double bonds> (opt. substd.)
- G11 = aryl <containing 6-12 C> (opt. substd.) /  
 heteroaryl <containing zero or more O, zero or more S,  
 zero or more N> (opt. substd.)
- G12 = R / alkyl <containing 1-12 C> (opt. substd.)
- G16 = O / S / **NH** / 267

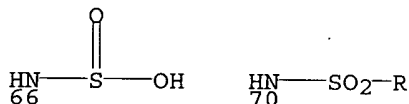
$\text{N} \text{---} \text{G19}$   
 267

- G17 = O / S / **NH** (opt. substd.)
- G19 = R / alkyl <containing 1-12 C>  
 (opt. substd. by 1 or more G24)
- G20 = PO3H2 / 58 / OPO3H2 / tetrazolyl / **OH** / H

$\text{O}_2\text{S} \text{---} \text{G22}$   
 58

- G21 = OH (opt. substd.) / 63 / 66 / 70 /  
 (Specifically claimed: alkoxy <containing 1-12 C>  
 (substd. by 1 or more G11))

$\text{HN} \text{---} \text{C(O)} \text{---} \text{G32}$   
 63



- G22 = OH / NH2 / 60

$\text{HN} \text{---} \text{C(O)} \text{---} \text{G32}$   
 60

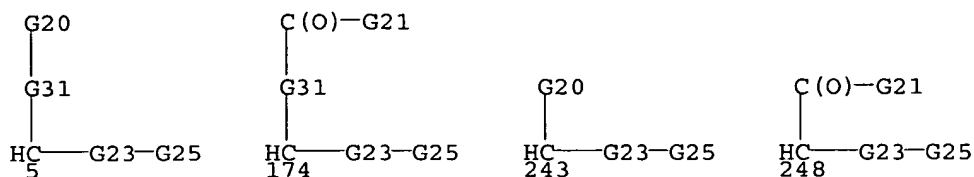
- G23 = C(O) / **bond** / alkylene <containing 1-3 C,  
 unbranched>
- G24 = R / aryl <containing 6-12 C> (opt. substd.) /  
 heteroaryl <containing zero or more O, zero or more S,  
 zero or more N> (opt. substd.)
- G25 = H / R / aryl <containing 6-12 C>  
 (opt. substd. by G12) / heteroaryl <containing zero or more  
 O, zero or more S, zero or more N> (opt. substd. by G12) /  
 alkyl <containing 1-12 C> (substd. by 1 or more G11) /  
 heterocycle <containing 3-10 atoms, zero or more O,  
 zero or more S, zero or more N> (opt. substd. by G12) /  
 alkyl <containing 1-12 C> (substd. by G27) / 73 / 77 /  
 (Specifically claimed: Ph (opt. substd.))



G26 = O / S / NH (opt. substd.)

G27 = heterocycle <containing 3-10 atoms, zero or more O,  
zero or more S, zero or more N> (opt. substd.)

G30 = 5 / 174 / 243 / 248



G31 = carbon chain <containing 1 or more C,  
0 or more double bonds, 0 or more triple bonds>  
(opt. substd. by G24)

G32 = H / R

G33 = H / R / alkyl <containing 1-12 C>  
(substd. by 1 or more G11)

G35 = H / R / alkyl <containing 1-12 C>  
(substd. by 1 or more G11) / alkoxy <containing 1-12 C>  
(substd. by 1 or more G11)

Patent location: claim 1

Note: additional ring formation also claimed

Note: or pharmaceutically acceptable salts

Note: substitution is restricted

L71 ANSWER 71 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 136:279216 MARPAT

TITLE: Preparation of arylmalonamides and -malonamic esters  
with as Factor VIIa inhibitors with antithrombotic  
activity.

INVENTOR(S): Schudok, Manfred; Klingler, Otmar; Nestler,  
Hans-Peter; Matter, Hans; Schreuder, Hermann

PATENT ASSIGNEE(S): Aventis Pharma Deutschland G.m.b.H., Germany

SOURCE: Eur. Pat. Appl., 35 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

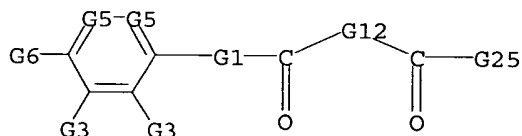
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

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EP 1193248	A1	20020403	EP 2000-121551	20000930
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CA 2423857	AA	20020411	CA 2001-2423857	20010920
WO 2002028823	A1	20020411	WO 2001-EP10845	20010920
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ,				

VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,  
 DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,  
 BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  
 AU 2001093824 A5 20020415 AU 2001-93824 20010920  
 EP 1339673 A1 20030903 EP 2001-974267 20010920  
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 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR  
 JP 2004512280 T2 20040422 JP 2002-532409 20010920  
 US 2003027828 A1 20030206 US 2001-965790 20011001  
 US 6645992 B2 20031111  
 US 2004034027 A1 20040219 US 2003-634827 20030806  
 PRIORITY APPLN. INFO.: EP 2000-121551 20000930  
 WO 2001-EP10845 20010920  
 US 2001-965790 20011001  
 AB ACOCR1R2COB [A = Q1; R3 = H, OH, alkyl; R4, R5 = H, alkyl, OH, alkoxy,  
 halo, NH2, NO2; X1, X2 = CR4, N; D1, D2 = H, OH, alkylcarbonyl,  
 arylcarbonyl, aralkylcarbonyl, alkoxycarbonyl, aryloxycarbonyl, etc.; R1 =  
 H, alkyl, OH, alkoxy, amino, etc.; R2 = H, (substituted) aryl,  
 heterocyclyl; R1R2C = (substituted) cycloalkyl, heterocyclyl, etc.; B =  
 NR7[CH(R8)]pAr, O[CH(R8)]pAr, etc.; R7 = H, alkyl, OH, amino; R8 = H,  
 alkyl, alkenyl, alkynyl, cyano, (substituted) aryl, heteroaryl, etc.; Ar =  
 (substituted) aryl; with provisos], were prepared Thus, HO2CCHPhCO2CH2Ph  
 and 4-H2NC(:NH)C6H4NH2 in DMF at 0° were treated with TOTU and  
 (Me2CH)2NEt followed by stirring overnight to give benzyl  
 N-(4-carbamimidoylphenyl)-2-phenylmalonamate. This was converted to  
 N-(4-carbamimidoylphenyl)-N'-[1-(4-nitrophenyl)ethyl]-2-phenylmalonamide  
 formate (I) via saponification and coupling with  
 (S)-1-(4-nitrophenyl)ethylamine.  
 I inhibited Factor VIIa with Ki = 0.198 μM.

## MSTR 1



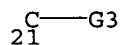
G1 = NH / 14

$\text{N}-\text{G2}$   
 14

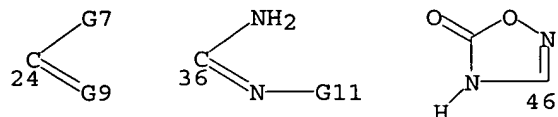
G2 = OH / carbon chain <containing 1-6 C,  
 0 or more double bonds, 0 or more triple bonds> /  
 carbocycle <containing 3-6 C, non-aromatic,  
 0 or more double bonds, 0 or more triple bonds>  
 G3 = H / carbon chain <containing 1-6 C,  
 0 or more double bonds, 0 or more triple bonds> /  
 carbocycle <containing 3-6 C, non-aromatic,  
 0 or more double bonds, 0 or more triple bonds> / OH / 19 /  
 F / Cl / Br / I / NH2 / NO2

$\text{O}-\text{G4}$   
 19

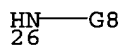
G4 = carbon chain <containing 1-6 C,  
0 or more double bonds, 0 or more triple bonds> /  
carbocycle <containing 3-6 C, non-aromatic,  
0 or more double bonds, 0 or more triple bonds>  
G5 = N / 21



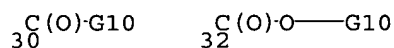
G6 = 24 / 36 / 46



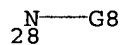
G7 = NH2 / 26



G8 = 30 / 32

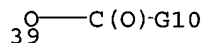


G9 = NH / 28

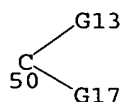


G10 = carbon chain <containing 1-6 C,  
0 or more double bonds, 0 or more triple bonds>  
(opt. substd. by 1 or more aryl (opt. substd.)) /  
carbocycle <containing 3-6 C, non-aromatic,  
0 or more double bonds, 0 or more triple bonds>  
(opt. substd. by 1 or more aryl (opt. substd.)) /  
aryl (opt. substd.)

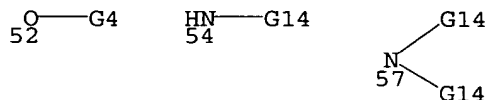
G11 = OH / 39



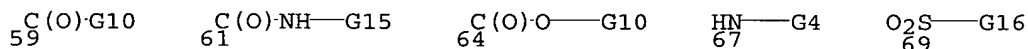
G12 = 50 / carbocycle <containing 3-7 C,  
0 or more double bonds, 0 or more triple bonds>  
(opt. substd.) / carbocycle <containing 7 or more C,  
aromatic, 6 or more normalized bonds, polycyclic,  
1 or more 6-membered rings> (opt. substd.) /  
heterocycle <containing 3 or more atoms, zero or more N,  
zero or more O, zero or more S, 1 or more C,  
attached through 1 or more C, 0 or more double bonds,  
mono- or polycyclic> (opt. substd.) / C(O)



G13 = H / carbon chain <containing 1-6 C,  
0 or more double bonds, 0 or more triple bonds> /  
carbocycle <containing 3-6 C, non-aromatic,  
0 or more double bonds, 0 or more triple bonds> / OH / 52 /  
NH2 / 54 / 57 / (Specifically claimed: Me / Et)



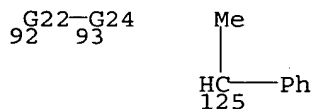
G14 = 59 / carbon chain <containing 1-6 C,  
0 or more double bonds, 0 or more triple bonds> /  
carbocycle <containing 3-6 C, non-aromatic,  
0 or more double bonds, 0 or more triple bonds> / 61 / 64 /  
67 / 69



G15 = carbon chain <containing 1-6 C,  
0 or more double bonds, 0 or more triple bonds>  
(substd. by 1 or more aryl (opt. substd.)) /  
carbocycle <containing 3-6 C, non-aromatic,  
0 or more double bonds, 0 or more triple bonds>  
(substd. by 1 or more aryl (opt. substd.)) /  
aryl (opt. substd.)

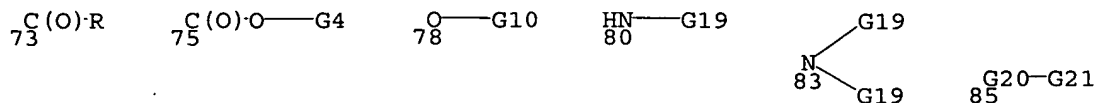
G16 = carbon chain <containing 1-6 C,  
0 or more double bonds, 0 or more triple bonds> /  
carbocycle <containing 3-6 C, non-aromatic,  
0 or more double bonds, 0 or more triple bonds> /  
aryl (opt. substd.)

G17 = H / aryl (opt. substd. by (1-3) G18) /  
heterocycle <containing 3 or more atoms, zero or more N,  
zero or more O, zero or more S, 0 or more double bonds>  
(opt. substd. by (1-3) G18) / 92 /  
(Specifically claimed: CH2Ph / CH2CH2Ph / 125)



G18 = CF3 / F / Cl / Br / I / OH / CN / 85 / NO2 / NH2 /  
80 / 83 / 78 / CO2H / heterocycle <containing 3 or more  
atoms, zero or more N, zero or more O, zero or more S,  
0 or more double bonds> / CONH2 / 73 / 75 /  
aryl (opt. substd.) / carbon chain <containing 1-6 C,  
0 or more double bonds, 0 or more triple bonds> /  
carbocycle <containing 3-6 C, non-aromatic,  
0 or more double bonds, 0 or more triple bonds>

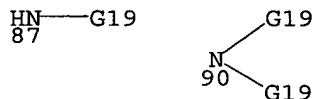




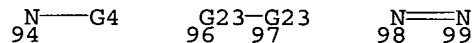
G19 = carbon chain <containing 1-6 C,  
0 or more double bonds, 0 or more triple bonds> /  
carbocycle <containing 3-6 C, non-aromatic,  
0 or more double bonds, 0 or more triple bonds> /  
aryl (opt. substd.)

G20 = S / S(O) / SO<sub>2</sub>

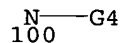
G21 = carbon chain <containing 1-6 C,  
0 or more double bonds, 0 or more triple bonds> /  
carbocycle <containing 3-6 C, non-aromatic,  
0 or more double bonds, 0 or more triple bonds> /  
aryl (opt. substd.) / NH<sub>2</sub> / 87 / 90



G22 = R <"linking group"> / alkylene <containing 1-4 C,  
unbranched> / O / S / NH / 94 / 96-50 97-93 / 98-50 99-93

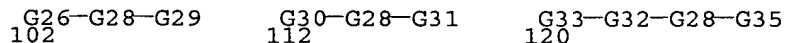


G23 = NH / 100

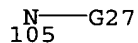


G24 = aryl (opt. substd. by (1-3) G18) /  
heterocycle <containing 3 or more atoms, zero or more N,  
zero or more O, zero or more S, 0 or more double bonds>  
(opt. substd. by (1-3) G18)

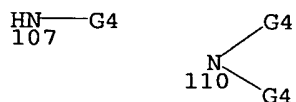
G25 = 102 / **112** / 120



G26 = NH / 105 / O

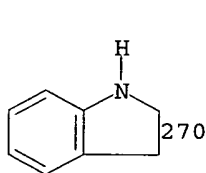
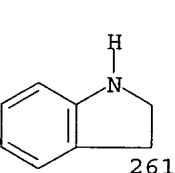
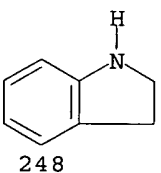
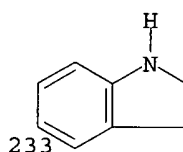
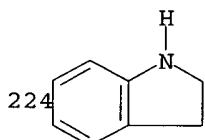
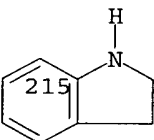
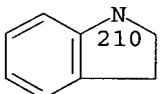
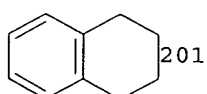
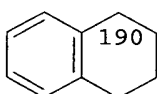
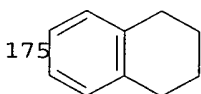
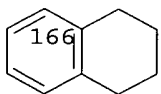
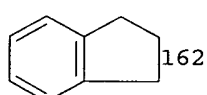
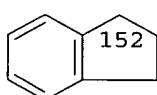
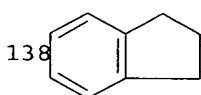
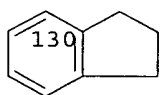


G27 = carbon chain <containing 1-6 C,  
0 or more double bonds, 0 or more triple bonds> /  
carbocycle <containing 3-6 C, non-aromatic,  
0 or more double bonds, 0 or more triple bonds> / OH / NH<sub>2</sub> /  
107 / 110

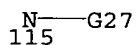


G28 = **bond** / carbon chain <containing 1 or more C,  
0 or more double bonds, 0 or more triple bonds>  
(opt. substd.)

G29 = aryl (opt. substd. by (1-3) G18) /  
(Specifically claimed: 130 / 138 / 152 / 162 / Ph / 166 /  
175 / 190 / 201 / naphthyl / imidazolyl / benzimidazolyl /  
oxazolyl / benzoxazolyl / thiazolyl / benzothiazolyl /  
indolyl / indazolyl / 210 / 215 / 224 / 233 / 248 / 261 /  
270 / pyridyl)



G30 = **NH** / 115



G31 = **heterocycle** <containing 3 or more atoms,  
zero or more N, zero or more O, zero or more S,  
0 or more double bonds> (opt. substd. by (1-3) G18)

G32 = **NH** / 121

N—G34  
121

G33 = NH / 123 / O

N—G34  
123

G34 = carbon chain <containing 1-6 C,  
0 or more double bonds, 0 or more triple bonds> /  
carbocycle <containing 3-6 C, non-aromatic,  
0 or more double bonds, 0 or more triple bonds> /  
carbon chain <containing 1-3 C, 0 or more double bonds,  
0 or more triple bonds> (substd. by 1 or more aryl (opt.  
substd.))  
G35 = aryl (opt. substd. by (1-3) G18) /  
heterocycle <containing 3 or more atoms, zero or more N,  
zero or more O, zero or more S, 0 or more double bonds>  
(opt. substd. by (1-3) G18)

Patent location: claim 1  
Note: and physiologically tolerable salts  
Note: substitution is restricted  
Stereochemistry: and stereoisomeric forms

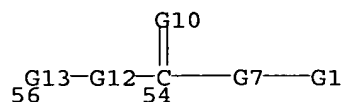
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 72 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 136:247893 MARPAT  
TITLE: Preparation of antimicrobial laspartomycin derivatives  
INVENTOR(S): Borders, Donald B.; Curran, William V.; Fantini,  
Amedeo A.; Francis, Noreen D.; Jarolmen, Howard;  
Reese, Richard A.  
PATENT ASSIGNEE(S): Micrologix Biotech Inc., USA  
SOURCE: U.S. Pat. Appl. Publ., 35 pp., Cont.-in-part of U.S.  
Ser. No. 760,328.  
CODEN: USXXCO  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 6  
PATENT INFORMATION:

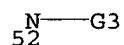
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002035063	A1	20020321	US 2001-904352	20010713
US 6737403	B2	20040518		
US 6511962	B1	20030128	US 2001-760328	20010112
PRIORITY APPLN. INFO.:			US 2000-219059P	20000717
			US 2000-220950P	20000726
			US 2001-760328	20010112

AB The invention provides methods for preparing laspartomycin core peptides and for treating and/or preventing microbial infections in a subject. Thus, Me(CH<sub>2</sub>)<sub>13</sub>CO-L-Phe-L-Asp-R (R is the core cyclic peptide of laspartomycin) was prepared and showed MIC = 16 µg/mL using Staphylococcus aureus strain Smith as the assay organism.

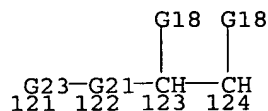
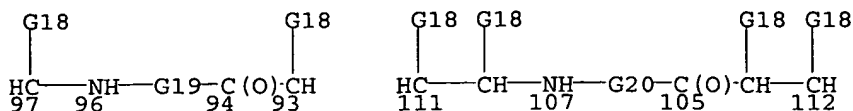
MSTR 1C


$$\begin{array}{ccccccc}
 & & \text{C}_6\text{H}_{11}\text{N} & & & & \text{H}_2\text{C}-\text{CO}_2\text{H} \\
 & & | & & & & | \\
 \text{HC} & - & \text{C}(\text{O}) & - & \text{N} & - & \text{C}(\text{O}) & - & \text{NH} & - & \text{CH}_2 & - & \text{C}(\text{O}) & - & \text{NH} & - & \text{CH} & - & \text{C}(\text{O}) \\
 | & & & & & & & & & & & & & & & & & & | \\
 \text{CH}_2 & & & & & & & & & & & & & & & & & & \text{NH} \\
 | & & & & & & & & & & & & & & & & & & | \\
 \text{HN} & & & & & & & & & & & & & & & & & & \text{CH}_2 \\
 | & & & & & & & & & & & & & & & & & & | \\
 \text{C}(\text{O}) & & & & & & & & & & & & & & & & & & \text{C}(\text{O}) \\
 | & & & & & & & & & & & & & & & & & & | \\
 \text{N} & & & & & & & & & & & & & & & & & & \text{NH} \\
 | & & & & & & & & & & & & & & & & & & | \\
 \text{C}(\text{O}) & - & \text{CH} & - & \text{NH} & - & \text{C}(\text{O}) & - & \text{CH} & - & \text{NH} & - & \text{C}(\text{O}) & - & \text{CH}_2 & - & \text{NH} & - & \text{C}(\text{O}) & - & \text{CH} \\
 | & & | & & & & & & & & & & & & & & & & | \\
 \text{Bu-s} & & \text{Me}-\text{CH}-\text{OH} & & & & & & & & & & & & & & & & \text{H}_2\text{C}-\text{CO}_2\text{H}
 \end{array}$$
$$\begin{array}{cc} \text{G5} - \text{G6} & \text{G5} - \text{G5} - \text{G6} \\ 259 & 263 \end{array}$$

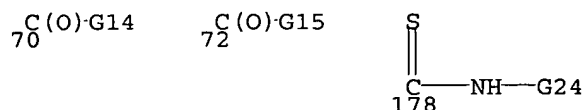
G4 = R / aryl <containing 6-15 C> (opt. substd.)  
G5 = arylene <containing 6-15 C> (opt. substd.)  
G6 = aryl <containing 6-15 C> (opt. substd.)  
G7 = **NH** / 52



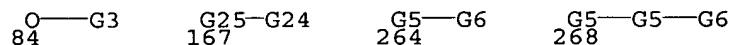
G10 = 0 / S  
G12 = R <"linker"> / (Specifically claimed: G17 /  
97-54 93-56 / 111-54 112-56 / 121-54 124-56 )



G13 = R <"linking group including a linked lipophilic group"> / (Specifically claimed: 70 / 72 / CN / 178)

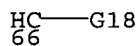


G14 = H / carbocycle <containing 3-10 C> (opt. substd.) / R <"optionally substituted heteroalkyl", containing 1 or more heteroatoms, 1 or more C> / aryl <containing 6-10 C> (opt. substd.) / heteroaryl <containing 5-10 atoms> (opt. substd.) / 264 / 268 / OH / 84 / 167



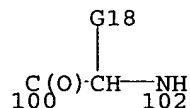
G15 = carbon chain <containing 1-10 C> (opt. substd. by 1 or more G4) / carbon chain <containing 1-11 C> (substd. by heteroaryl <containing 5-15 atoms> (opt. substd.))

G17 = (1-2) 66

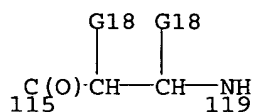


G18 = H / R

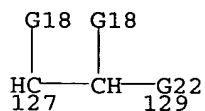
G19 = (0-2) 100-96 102-94



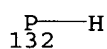
G20 = (0-2) 115-107 119-105



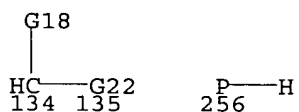
G21 = (0-3) 127-121 129-123



G22 = O / NH / S / 132

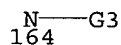


G23 = O / NH / S / 256 / 134-54 135-122



G24 = R <"lipophilic group"> / tetradecyl / nonyl / decyl

G25 = O / NH / 164 / S



Patent location: claim 28  
 Note: or salts or hydrates  
 Note: also incorporates claim 49

L71 ANSWER 73 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 136:247505 MARPAT  
 TITLE: Preparation of aminoquinolines as inhibitors of cGMP  
 phosphodiesterase  
 INVENTOR(S): Bi, Yingzhi; Yu, Guixue; Rotella, David P.; Macor,  
 John E.  
 PATENT ASSIGNEE(S): Bristol-Myers Squibb Company, USA  
 SOURCE: PCT Int. Appl., 96 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002020489	A2	20020314	WO 2001-US26130	20010821
WO 2002020489	A3	20020606		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,

CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
 GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,  
 LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL,  
 PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG,  
 US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,  
 DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,  
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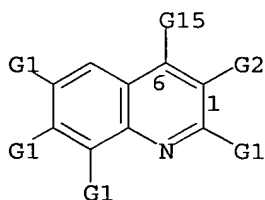
US 2002177587	A1	20021128	US 2001-933066	20010820
US 6576644	B2	20030610		
AU 2001085163	A5	20020322	AU 2001-85163	20010821
JP 2004527459	T2	20040909	JP 2002-525111	20010821
US 2003225128	A1	20031204	US 2003-412969	20030414
US 6835737	B2	20041228		
US 2005113358	A1	20050526	US 2004-18968	20041221

PRIORITY APPLN. INFO.:

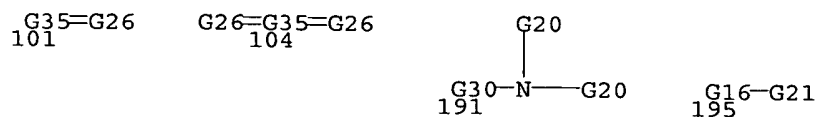
US 2000-230267P	20000906
US 2001-933066	20010820
WO 2001-US26130	20010821
US 2003-412969	20030414

AB Title compds. I [R2, R6, R7, and R8 = independently H, halo, (un)substituted alkyl, alkoxy, nitro, etc.; R4 and R5 = independently H, (un)substituted alkyl, cycloalkyl, aryl, or heteroaryl with provision R4 and R5 are not both H; R3 = (CH2)zY, wherein z = 0-3 and Y is independently selected from (un)substituted imidazole, triazole, OR9, CO2R9, CH(CO2R9)2, NR10R11, NR10CONR11R12, etc.; or R4 and R5 together with Y form a heterocyclic ring; R9 = H, OH, (un)substituted alkyl, alkoxy, aryl, heteroaryl, etc.; R10, R11 and R12 = independently H, (un)substituted alkyl, alkoxy, cycloalkyl, heterocyclo, heteroaryl, etc.; or R10 forms a 3-7 membered heterocyclo ring with R11 or R12, or R11 forms a 3-7 membered ring with R12] are prepared and disclosed as inhibitors of cGMP PDE, especially type 5. Thus, II was prepared via substitution of 4-chloro-6-cyanoquinoline-3-carboxylic acid Et ester with 3-chloro-4-methoxybenzylamine hydrochloride (97% yield). As inhibitors of cGMP phosphodiesterase, I are useful in treatment of cardiovascular disorders, diabetes, gastrointestinal disorders and sexual dysfunction, in particular erectile dysfunction (no data).

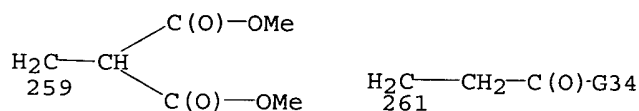
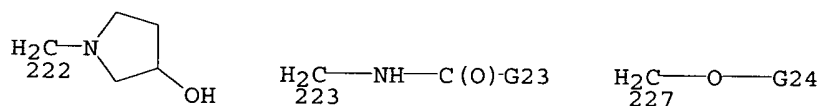
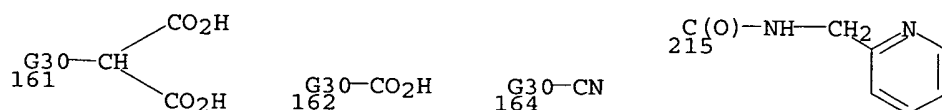
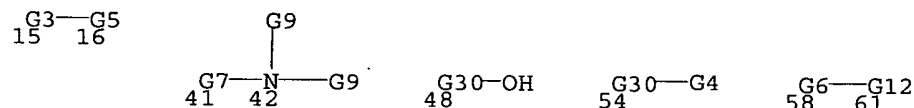
#### MSTR 1A



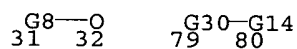
G1 = H / F / Cl / Br / I / alkyl <containing 1-12 C>  
 (opt. substd.) / alkoxy <containing 1-12 C> / NO2 / CN /  
 Ph (opt. substd.) / naphthyl (opt. substd.) /  
 heteroaryl <containing up to 14 atoms,  
 1 or more heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), 1-3 rings>  
 (opt. substd.) / heterocycle <containing 3-15 atoms,  
 1 or more heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), non-aromatic,  
 1-3 rings> (opt. substd.) / 101 / 104 /  
 (Specifically claimed: CF3 / 191 / 195 / Et)



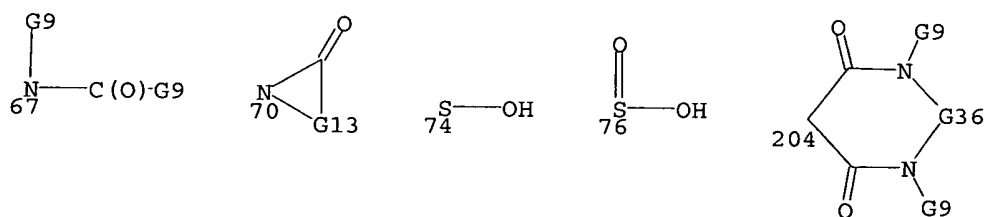
G2 = 48 / 161 / 162 / 15 / 41 / 164 / 54 / 58 /  
heterocycle <containing 3-7 atoms, 1 or more heteroatoms,  
1 or more N, attached through 1 or more N, monocyclic> /  
(Specifically claimed: 215 / 222 / 223 / 227 / 259 / 261)



G3 = 31-1 32-16 / 79-1 80-16



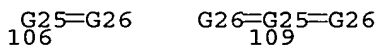
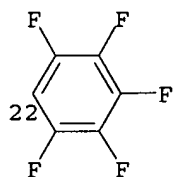
G4 = 204 / 67 / 70 / SH / 74 / 76



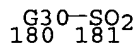
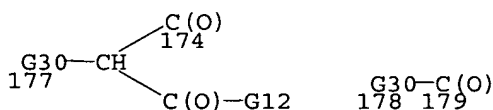
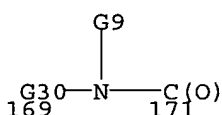
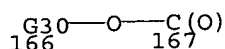
G5 = alkyl <containing 1-12 C> (opt. substd.) / OH /  
alkoxy <containing 1-12 C> / carbocycle <containing 3-9 C,  
non-aromatic, 0 or more double bonds> (opt. substd.) /



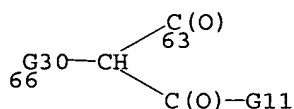
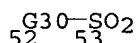
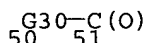
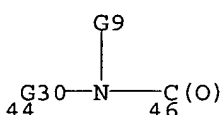
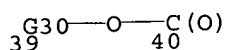
heterocycle <containing 3-15 atoms, 1 or more heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), non-aromatic,  
 1-3 rings> (opt. substd.) / 106 / 109 / Ph (opt.  
 substd.) /  
 naphthyl (opt. substd.) / heteroaryl <containing up to 14  
 atoms, 1 or more heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 1-3 rings> (opt. substd.) / 22



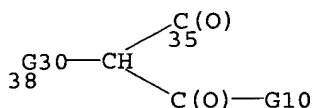
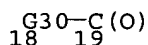
G6 = 166-1 167-61 / G16 / 169-1 171-61 /  
 177-1 174-61 / 178-1 179-61 / 180-1 181-61



G7 = 39-1 40-42 / G30 / 44-1 46-42 / 66-1 63-42 /  
 50-1 51-42 / 52-1 53-42

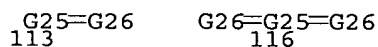


G8 = G30 / 18-1 19-32 / 38-1 35-32



G9 = H / alkyl <containing 1-12 C> (opt. substd.) /  
 alkoxy <containing 1-12 C> / carbocycle <containing 3-9 C,  
 non-aromatic, 0 or more double bonds> (opt. substd.) /  
 Ph (opt. substd.) / naphthyl (opt. substd.) /

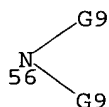
heterocycle <containing 3-15 atoms, 1 or more heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), non-aromatic,  
 1-3 rings> (opt. substd.) / 113 / 116 /  
 heteroaryl <containing up to 14 atoms,  
 1 or more heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), 1-3 rings>  
 (opt. substd.)



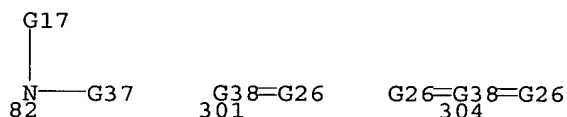
G10 = OH / 37



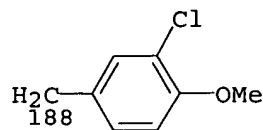
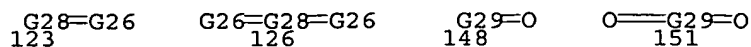
G11 = 56 / heterocycle <containing 3-7 atoms,  
 1 or more heteroatoms, 1 or more N,  
 attached through 1 or more N, monocyclic>



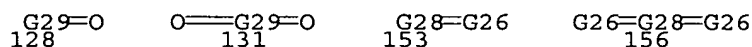
G12 = heterocycle <containing 3-7 atoms,  
 1 or more heteroatoms, 1 or more N,  
 attached through 1 or more N, monocyclic>  
 G13 = R <"moiety to complete a 3-7 membered ring">  
 G14 = S / S(O) / SO2  
 G15 = 82 / heterocycle <containing 3-15 atoms,  
 1 or more heteroatoms, 1 or more N, zero or more O,  
 zero or more S (no other heteroatoms),  
 attached through 1 or more N, non-aromatic, 1-3 rings>  
 (opt. substd.) / 301 / 304



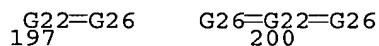
G16 = (1-3) CH2  
 G17 = alkyl <containing 1-12 C>  
 (opt. substd. by 1 or more G18) /  
 carbocycle <containing 3-9 C, non-aromatic,  
 0 or more double bonds> (opt. substd.) / 123 / 126 /  
 Ph (opt. substd.) / naphthyl (opt. substd.) /  
 heteroaryl <containing up to 14 atoms,  
 1 or more heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), 1-3 rings>  
 (opt. substd.) / 148 / 151 / (Specifically claimed: 188)



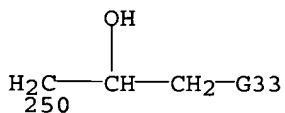
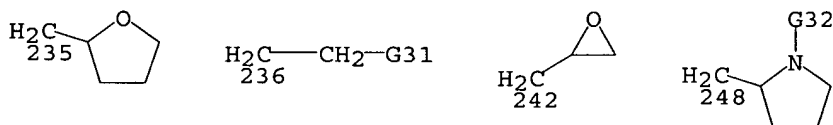
G18 = R / (Specifically claimed: carbocycle <containing 3-9 C, non-aromatic, 0 or more double bonds> (opt. substd.) / 153 / 156 / Ph (opt. substd.) / naphthyl (opt. substd.) / heteroaryl <containing up to 14 atoms, 1 or more heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), 1-3 rings> (opt. substd.) / 128 / 131)



G19 = R <"moiety to complete a heterocyclic ring">  
 G20 = H / alkyl <containing 1-12 C> (opt. substd.)  
 G21 = heterocycle <containing 3-15 atoms, 1 or more heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), non-aromatic, 1-3 rings> (opt. substd.) / 197 / 200



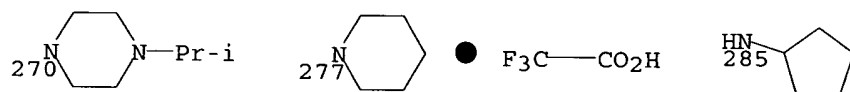
G22 = heterocycle <containing 3-15 atoms, 1 or more heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), non-aromatic, 1-3 rings> (opt. substd.)  
 G23 = Ph / cyclohexyl / 2-pyridyl  
 G24 = Pr-n / Me / 235 / Pr-i / Et / 236 / 242 / 248 / 250



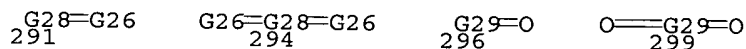
G25 = heterocycle <containing 3-15 atoms, 1 or more heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), 1-3 rings> (opt. substd.) / carbocycle <containing 3-9 C, non-aromatic, 0 or more double bonds> (opt. substd.)  
 G26 = O / 111

N—G27  
111

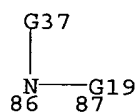
- G27 = OH / alkoxy <containing 1-4 C>  
 G28 = carbocycle <containing 3-9 C, non-aromatic, 0 or more double bonds> (opt. substd.)  
 G29 = heterocycle <containing 5-14 atoms, 1 or more heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), aromatic, 2 or more double bonds, 1-3 rings> (opt. substd.)  
 G30 = (0-3) CH2  
 G31 = OEt / OH  
 G32 = Me / cyclopentyl  
 G33 = pyrrolidino / NMe2  
 G34 = NHet / 270 / 277 / 285



- G35 = heterocycle <containing 3-15 atoms, 1 or more heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), 1-3 rings> (opt. substd.)  
 G36 = bond / R <"moiety to complete a 6-7 membered ring">  
 G37 = H / alkyl <containing 1-12 C> (opt. substd.) / carbocycle <containing 3-9 C, non-aromatic, 0 or more double bonds> (opt. substd.) / 291 / 294 / Ph (opt. substd.) / naphthyl (opt. substd.) / heteroaryl <containing up to 14 atoms, 1 or more heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), 1-3 rings> (opt. substd.) / 296 / 299



- G38 = heterocycle <containing 3-15 atoms, 1 or more heteroatoms, 1 or more N, zero or more O, zero or more S (no other heteroatoms), attached through 1 or more N, non-aromatic, 1-3 rings> (opt. substd.)  
 G2 + G15 = 87-1 86-6



Patent location:

claim 1

Note:

or pharmaceutically acceptable salts

Note:

additional ring formation also claimed

Note:

substitution is restricted

L71 ANSWER 74 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 136:215514 MARPAT  
 TITLE: Novel autoinducer molecules and uses therefor  
 INVENTOR(S): Pesci, Everett C.; Milbank, Jared B. J.; Pearson, James P.; Kende, Andrew S.; Greenberg, Everett Peter; Iglewski, Barbara H.  
 PATENT ASSIGNEE(S): The University of Iowa Research Foundation, USA; University of Rochester; East Carolina University  
 SOURCE: PCT Int. Appl., 42 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002018342	A2	20020307	WO 2001-US27165	20010831
WO 2002018342	A3	20020510		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

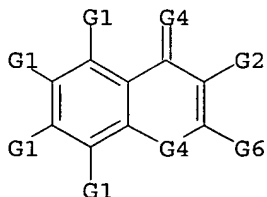
AU 2001086976	A5	20020313	AU 2001-86976	20010831
US 2002177715	A1	20021128	US 2001-945325	20010831
US 2005009869	A1	20050113	US 2004-844037	20040916

PRIORITY APPLN. INFO.:  
 US 2000-229715P 20000831  
 US 2001-945325 20010831  
 WO 2001-US27165 20010831

OTHER SOURCE(S): CASREACT 136:215514

AB Novel bacterial quinolone signal mols. and, more particularly, Pseudomonas quinolone signal ("PQS") mols., e.g., 2-heptyl-3-hydroxy-4-quinolone, and analogs and derivs. are described. Therapeutic compns. containing the mols., and therapeutic methods, methods of for regulating gene expression, methods for identifying modulators of the autoinducer mols., and methods of modulating quorum sensing signaling in bacteria using the compds. of the invention are also described. Thus, 2-Heptyl-3-hydroxy-4-quinolone was isolated from culture broth of Pseudomonas aeruginosa PAO-JP2/pECP39.

#### MSTR 1



G1 = H / alkyl (opt. substd. by cycloalkyl) /  
 cycloalkyl (opt. substd. by alkyl) / R /  
 heterocycle <containing zero or more N, zero or more O,  
 zero or more S, zero or more P, non-aromatic, saturated>

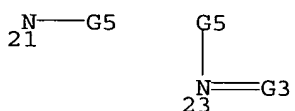
(opt. substd.) / alkenyl / alkynyl / OH / NH<sub>2</sub> / SH / 50 /  
16 / F / Cl / Br / I



G2 = H / SH / OH / 54 / NH<sub>2</sub> / 18

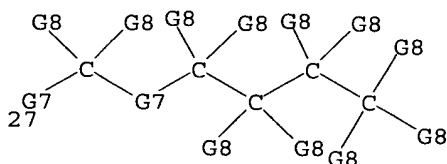


G3 = O / S  
G4 = O / S / 21 / 23

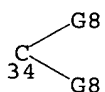


G5 = H / alkyl <containing 1-4 C> (opt. substd.) /  
cycloalkyl <containing 3-4 C> (opt. substd.) / R /  
heterocycle <containing 3-4 atoms, zero or more N,  
zero or more O, zero or more S, zero or more P,  
non-aromatic, saturated>

G6 = R <"tail group"> / (**Specifically claimed: 27**)



G7 = C(O) / SO<sub>2</sub> / NH / 34

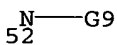


G8 = H / OH / NH<sub>2</sub> / SH / 56 / 37 / F / Cl / Br / I / R



G9 = alkyl <containing 1-4 C> (opt. substd.) /  
cycloalkyl <containing 3-4 C> (opt. substd.) / R /  
heterocycle <containing 3-4 atoms, zero or more N,  
zero or more O, zero or more S, zero or more P,  
non-aromatic, saturated>

G10 = O / 52 / NH



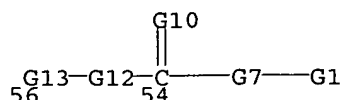
Patent location: claim 1  
 Note: and salts

L71 ANSWER 75 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 136:134619 MARPAT  
 TITLE: Derivatives of laspartomycin and preparation and use thereof  
 INVENTOR(S): Borders, Donald B.; Curran, William V.; Fantini, Amadeo A.; Francis, Norren D.; Jarolmen, Howard; Leese, Richard A.  
 PATENT ASSIGNEE(S): Intrabiotics Pharmaceuticals, Inc., USA  
 SOURCE: PCT Int. Appl., 99 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 6  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002005838	A1	20020124	WO 2001-US22353	20010717
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 6511962	B1	20030128	US 2001-760328	20010112
CA 2450747	AA	20020124	CA 2001-2450747	20010717
EP 1309336	A1	20030514	EP 2001-953501	20010717
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2004528268	T2	20040916	JP 2002-511770	20010717
PRIORITY APPLN. INFO.:			US 2000-219059P	20000717
			US 2000-220950P	20000726
			US 2001-760328	20010112
			WO 2001-US22353	20010717

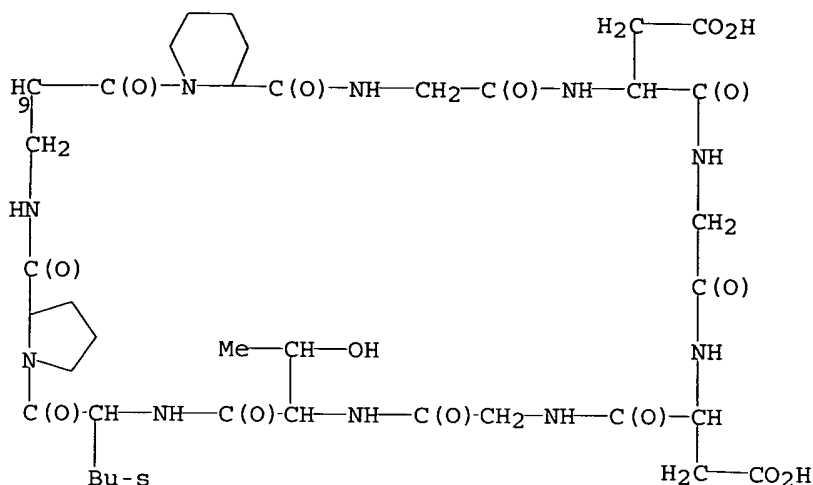
AB The present invention provides laspartomycin core peptides, laspartomycin core peptide derivs., antimicrobial laspartomycin derivs., methods for making laspartomycin core peptides, methods for making laspartomycin core peptide derivs., methods for making antimicrobial laspartomycin derivs., pharmaceutical compns. of antimicrobial laspartomycin derivs., methods of inhibiting microbial growth and methods for treating and/or preventing microbial infections in a subject.

MSTR 1C

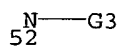


G1 = R <"core cyclic peptide of laspartomycin"> /

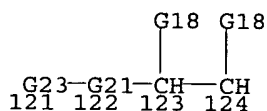
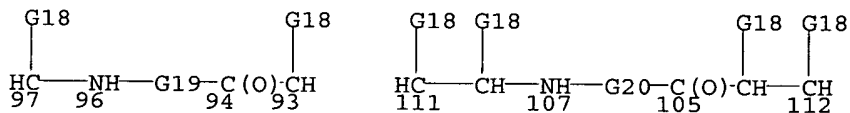
(Specifically claimed: 9)



- G3 = carbon chain <containing 1-10 C>  
 (opt. substd. by 1 or more G4) /  
 carbocycle <containing 3-10 C> (opt. substd.) /  
 R <"optionally substituted heteroalkyl"> /  
 aryl <containing 6-10 C> (opt. substd. by 1 or more G5) /  
 heteroaryl <containing up to 10 atoms> (opt. substd.) /  
 carbon chain <containing 1-11 C>  
 (substd. by heteroaryl <containing up to 15 atoms>  
 (opt. substd.))
- G4 = R / aryl <containing 6-15 C> (opt. substd.)
- G5 = R / aryl <containing 6-10 C>  
 (opt. substd. by 1 or more G6)
- G6 = R / aryl <containing 6-10 C> (opt. substd.)
- G7 = NH / 52

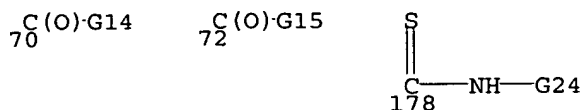


- G10 = O / S
- G12 = R <"linker"> / (Specifically claimed: G17 /  
 97-54 93-56 / 111-54 112-56 / 121-54 124-56 )



- G13 = R <"linking group including a linked lipophilic  
 group"> / (Specifically claimed: 70 / 72 / CN / 178)

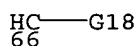




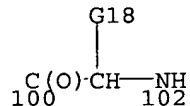
G14 = H / carbocycle <containing 3-10 C> (opt. substd.) /  
 R <"optionally substituted heteroalkyl"> /  
 aryl <containing 6-10 C> (opt. substd. by 1 or more G5) /  
 heteroaryl <containing up to 10 atoms> (opt. substd.) / OH /  
 84 / 167



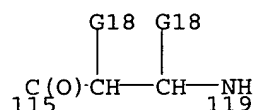
G15 = carbon chain <containing 1-10 C>  
 (opt. substd. by 1 or more G4) /  
 carbon chain <containing 1-11 C>  
 (substd. by heteroaryl <containing up to 15 atoms>  
 (opt. substd.))  
 G17 = (1-2) 66



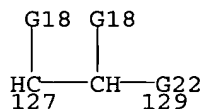
G18 = H / R  
 G19 = (0-2) 100-96 102-94



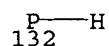
G20 = (0-2) 115-107 119-105



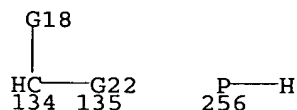
G21 = (0-3) 127-121 129-123



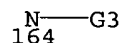
G22 = O / NH / S / 132



G23 = O / NH / S / 256 / 134-54 135-122



G24 = R <"lipophilic group"> / tetradecyl / nonyl / decyl  
 G25 = O / NH / 164 / S



Patent location: claim 28  
 Note: or salts or hydrates  
 Note: also incorporates claim 49

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

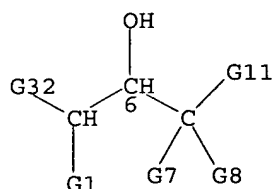
L71 ANSWER 76 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 136:102193 MARPAT  
 TITLE: Preparation of disubstituted amines for treating  
 Alzheimer's disease  
 INVENTOR(S): Beck, James P.; Gailunas, Andrea; Hom, Roy;  
 Jagodzinska, Barbara; John, Varghese; Maillaird,  
 Michel  
 PATENT ASSIGNEE(S): Elan Pharmaceuticals, Inc., USA; Pharmacia & Upjohn  
 Company  
 SOURCE: PCT Int. Appl., 286 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 5  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002002520	A2	20020110	WO 2001-US21000	20010702
WO 2002002520	A3	20020829		
WO 2002002520	C1	20031113		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 2002143177	A1	20021003	US 2001-895843	20010629
US 6846813	B2	20050125		
EP 1586556	A2	20051019	EP 2005-8935	20010629
EP 1586556	A3	20051221		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
EP 1666452	A2	20060607	EP 2005-27957	20010629
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				

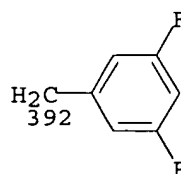
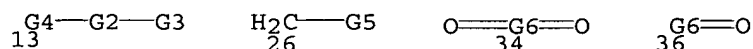
AU 2001073132	A5	20020114	AU 2001-73132	20010702
US 2005203096	A1	20050915	US 2005-42695	20050125
PRIORITY APPLN. INFO.:			US 2000-215323P	20000630
			US 2001-895843	20010629
			EP 2001-950719	20010629
			EP 2001-952352	20010629
			WO 2001-US21000	20010702

AB The title compds. [I; R1 = (un)substituted alkyl, alkenyl, alkynyl, etc.; R2 = H, (un)substituted alkyl, alkenyl, etc.; R3 = H, (un)substituted alkyl, alkenyl, etc.; X = CO, CH2, (CH2)2, CH2CO; A = absent, Ph, cyclohexyl, etc.; R4 = (un)substituted alkyl, OH, NO2, etc.; n = 0-3; Z = CO, SO, SO2, a bond, etc.; R5 = (un)substituted alkyl, (CH2)0-3cycloalkyl, etc.; R6 = H, alkyl, alkenyl, etc.; or N(R6)ZR5 may cyclize to form (un)substituted 5-8 membered heterocyclic ring or fused rings],  $\beta$ -secretase inhibitors which are useful in treating Alzheimer's disease and other similar diseases, were prepared E.g., a multi-step synthesis of (2S,3S)-II, was given. The compds. I exhibited IC50 of < 50  $\mu$ M against  $\beta$ -secretase.

## MSTR 1

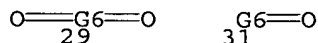


G1 = alkyl <containing 1-6 C> (opt. substd.) / 13 /  
 alkenyl <containing 2-6 C, 1-2 double bonds> (opt. substd.) /  
 alkynyl <containing 2-6 C, 1-2 triple bonds> (opt. substd.) /  
 Ph (opt. substd. by 1 or more G9) / naphthyl /  
 carbocycle <aromatic, 6 or more normalized bonds, bicyclic,  
 (up to 1) 5-membered, (1-2) 6-membered rings only>  
 (opt. substd.) / 26 / heteroaryl <containing zero or more N,  
 zero or more S, zero or more O (no other heteroatoms),  
 mono- or polycyclic> (opt. substd.) / 34 / 36 /  
 heterocycle <non-aromatic, containing zero or more N,  
 zero or more S, zero or more O (no other heteroatoms),  
 5- to 7-membered monocyclic ring> (opt. substd.) /  
 (Specifically claimed: 392 / CH2Ph)

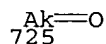


G2 = S / S(O) / SO2  
 G3 = alkyl <containing 1-6 C>  
 G4 = (1-2) CH2  
 G5 = Ph (opt. substd. by 1 or more G9) / naphthyl /  
 carbocycle <aromatic, 6 or more normalized bonds, bicyclic,  
 (up to 1) 5-membered, (1-2) 6-membered rings only>  
 (opt. substd.) / heteroaryl <containing zero or more N,

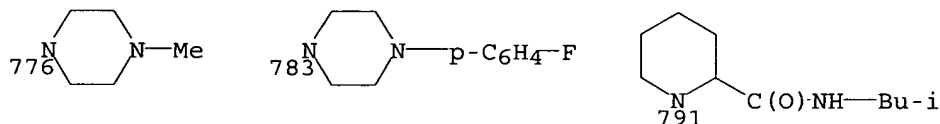
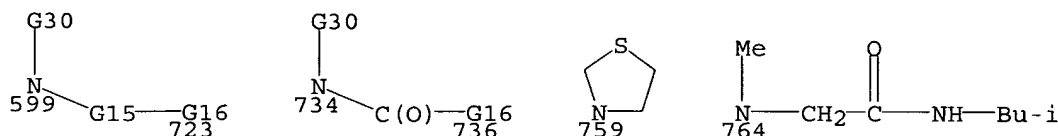
zero or more S, zero or more O (no other heteroatoms),  
 mono- or polycyclic> (opt. substd.) / 29 / 31 /  
 heterocycle <non-aromatic, containing zero or more N,  
 zero or more S, zero or more O (no other heteroatoms),  
 5- to 7-membered monocyclic ring> (opt. substd.)



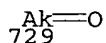
- G6 = heterocycle <containing zero or more N,  
 zero or more S, zero or more O (no other heteroatoms),  
 optionally attached through N, 0 or more S, 0 or more C,  
 aromatic, mono- or polycyclic> (opt. substd.) /  
 heterocycle <containing zero or more N, zero or more S,  
 zero or more O (no other heteroatoms),  
 optionally attached through S, 0 or more C, non-aromatic,  
 monocyclic> (opt. substd.)
- G7 = H / R
- G8 = H / R
- G9 = R / (Specifically claimed: F)
- G10 = CH<sub>2</sub> / C(O) / CH<sub>2</sub>CH<sub>2</sub> / 725



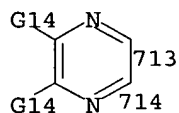
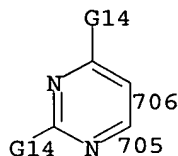
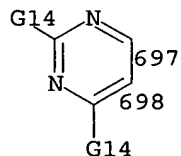
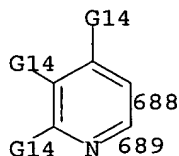
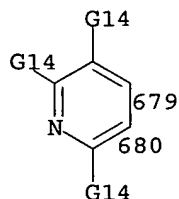
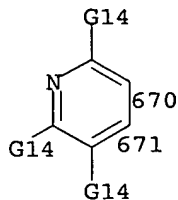
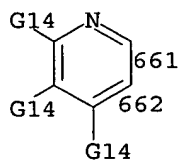
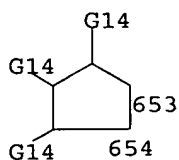
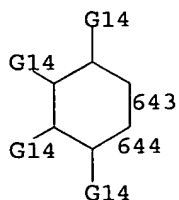
- G11 = 599 / 734 / heterocycle <containing 1 or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 mono- or bicyclic, 5-, 6-, 7- or 8-membered rings only>  
 (opt. substd.) / (Specifically claimed: 759 / 764 / 776 /  
 783 / 791)



- G12 = CH<sub>2</sub> / C(O) / CH<sub>2</sub>CH<sub>2</sub> / 729



- G13 = CH<sub>2</sub>CH<sub>2</sub> (opt. substd.) / CH=CH (opt. substd.) /  
 o-C<sub>6</sub>H<sub>4</sub> (opt. substd.) / 643-604 644-606 / 653-604 654-606 /  
 661-604 662-606 / 679-604 680-606 / 688-604 689-606 /  
 670-604 671-606 / 697-604 698-606 / 706-604 705-606 /  
 713-604 714-606

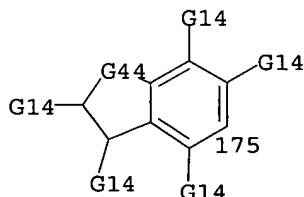
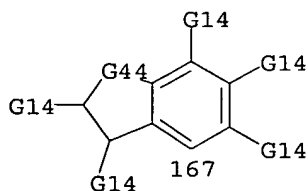


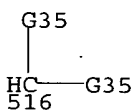
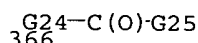
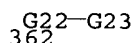
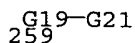
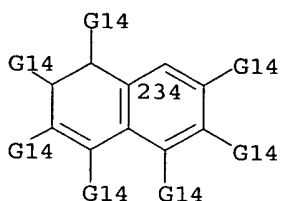
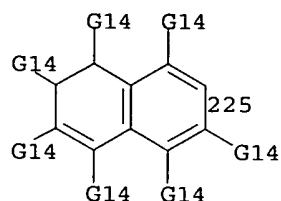
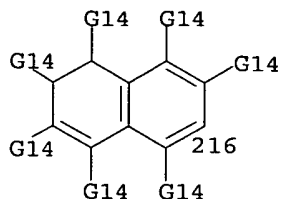
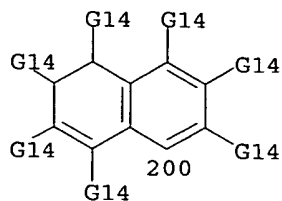
G14 = H / R  
 G15 = S(O) / SO2 / 719-599 720-723 / bond

C(O):G43  
 719 720

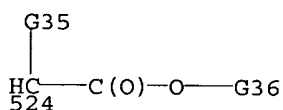
G16 = alkyl <containing 1-10 C> (opt. substd.) /  
 cycloalkyl <containing 3-8 C> (opt. substd.) / 161 /  
 Ph (opt. substd.) / naphthyl / 167 / 175 / 200 / 216 / 225 /  
 234 / 259 / 362 / heterocycle <non-aromatic,  
 containing zero or more N, zero or more S,  
 zero or more O (no other heteroatoms),  
 5- to 7-membered monocyclic ring> (opt. substd.) /  
 heteroaryl <containing zero or more N, zero or more S,  
 zero or more O (no other heteroatoms), mono- or polycyclic>  
 (opt. substd.) / 595 / 597 / 366 / 516 /  
 carbocycle <containing 5 or more C, polycyclic>  
 (opt. substd.) / heterocycle <containing 5 or more C,  
 polycyclic> (opt. substd.) / alkenyl <containing 2-10 C>  
 (opt. substd.) / alkynyl <containing 2-10 C> (opt. substd.) /  
 524 / 530 / 535 / 539 / H / C(NH)NH2 (opt. substd.) / 545 /  
 (Specifically claimed: Bu-n / 795)

G17-G18  
 161

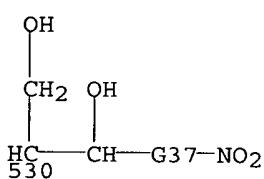




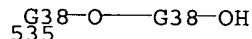
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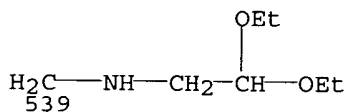
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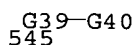
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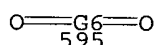
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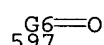
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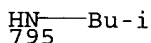
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595

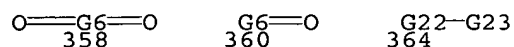
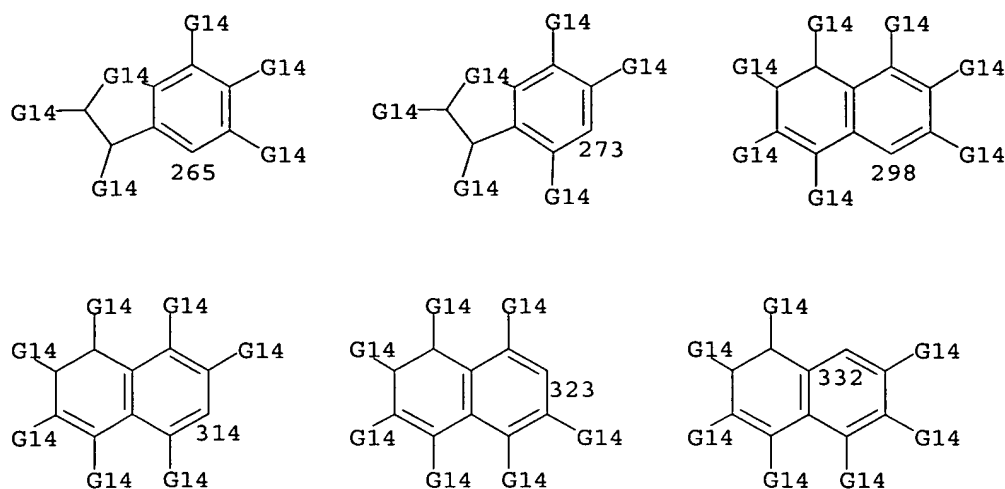


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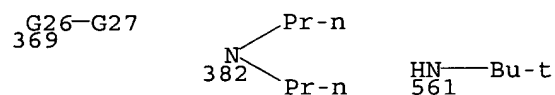


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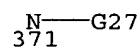
- G17 = (1-3) CH<sub>2</sub>  
 G18 = cycloalkyl <containing 3-8 C> (opt. substd.)  
 G19 = alkylene <containing 1 or more C> (opt. substd.) /  
       G20  
 G20 = (1-4) CH<sub>2</sub>  
 G21 = Ph (opt. substd.) / naphthyl / 265 / 273 / 298 /  
       314 / 323 / 332 / heteroaryl <containing zero or more N,  
       zero or more S, zero or more O (no other heteroatoms),  
       mono- or polycyclic> (opt. substd.) /  
       heterocycle <containing zero or more N, zero or more S,  
       zero or more O (no other heteroatoms), non-aromatic,  
       5- to 7-membered monocyclic ring> (opt. substd.) / 358 /  
       360 / 364



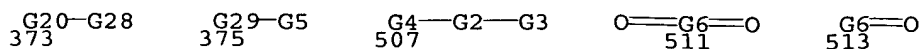
- G22 = arylene <containing 6 or more C> (opt. substd.) /  
heterocycle <containing 1 or more N, zero or more S,  
zero or more O, mono- or polycyclic> (opt. substd.)
- G23 = aryl <containing 6 or more C> (opt. substd.) /  
heterocycle <containing 1 or more N, zero or more S,  
zero or more O, mono- or polycyclic> (opt. substd.)
- G24 = alkylene <containing 1 or more C> (opt. substd.) /  
**G17**
- G25 = NH2 / **369** / (Specifically claimed: 382 / 561)



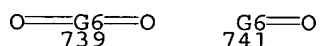
- G26 = NH / **371**



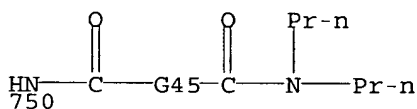
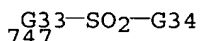
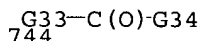
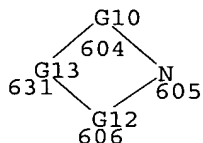
- G27 = alkyl <containing 1-6 C> (opt. substd.) /  
alkenyl <containing 2-6 C, 1-2 double bonds> (opt. substd.) /  
alkynyl <containing 2-6 C, 1-2 triple bonds> (opt. substd.) /  
507 / cycloalkyl <containing 3-7 C> (opt. substd.) / 373 /  
375 / Ph (opt. substd.) / naphthyl /  
carbocycle <aromatic, 6 or more normalized bonds, bicyclic,  
(up to 1) 5-membered, (1-2) 6-membered rings only>  
(opt. substd.) / heteroaryl <containing zero or more N,  
zero or more S, zero or more O (no other heteroatoms),  
mono- or polycyclic> (opt. substd.) / **511** / **513** /  
heterocycle <containing zero or more N, zero or more S,  
zero or more O (no other heteroatoms), non-aromatic,  
5- to 7-membered monocyclic ring> (opt. substd.)



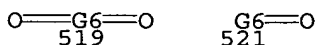
- G28 = cycloalkyl <containing 3-7 C> (opt. substd.)  
 G29 = alkylene <containing 1-4 C>  
 G30 = H / alkyl <containing 1-10 C> (opt. substd.) /  
 alkenyl <containing 2-10 C> (opt. substd.) /  
 alkyl <containing 2-10 C> (opt. substd.) /  
 Ph (opt. substd.) / alkyl <containing 1-4 C>  
 (substd. by G31) / (Specifically claimed: Me / Et)  
 G31 = Ph (opt. substd.) / naphthyl /  
 carbocycle <aromatic, 6 or more normalized bonds, bicyclic,  
 (up to 1) 5-membered, (1-2) 6-membered rings only>  
 (opt. substd.) / cycloalkyl <containing 3-7 C> /  
 heteroaryl <containing zero or more N, zero or more S,  
 zero or more O (no other heteroatoms), mono- or polycyclic>  
 (opt. substd.) / 739 / 741 / heterocycle <containing zero or  
 more N, zero or more S, zero or more O (no other heteroatoms)  
 , non-aromatic, 5- to 7-membered monocyclic ring>  
 (opt. substd.)



- G32 = 605 / NH2 (opt. substd.) / 744 / 747 /  
 alkylamino <containing 1 or more C> (opt. substd.) /  
 (Specifically claimed: 750)



- G33 = NH (opt. substd.)  
 G34 = R / carbon chain <containing 1 or more C>  
 (opt. substd.) / carbocycle <containing 3 or more C>  
 (opt. substd.) / heterocycle <containing zero or more N,  
 zero or more O, zero or more S (no other heteroatoms)>  
 (opt. substd.)  
 G35 = Ph (opt. substd.) / naphthyl /  
 carbocycle <aromatic, 6 or more normalized bonds, bicyclic,  
 (up to 1) 5-membered, (1-2) 6-membered rings only>  
 (opt. substd.) / heteroaryl <containing zero or more N,  
 zero or more S, zero or more O (no other heteroatoms),  
 mono- or polycyclic> (opt. substd.) / 519 / 521





G36 = alkyl <containing 1-4 C>  
 G37 = phenylene  
 G38 = alkylene <containing 1-6 C>  
 G39 = (1-6) CH2  
 G40 = C(NH)NH2 (opt. substd.)  
 G43 = O / S / NH (opt. substd.)  
 G44 = (1-3) CH2 (opt. substd.)  
 G45 = m-C6H4 (opt. substd. by G46)  
 G46 = R / Me

Generic group attributes: 725 729 <containing 2 C, saturated>  
 Patent location: claim 1  
 Note: or pharmaceutically acceptable salts  
 Note: additional ring formation also claimed  
 Note: substitution is restricted  
 Note: also incorporates claim 15

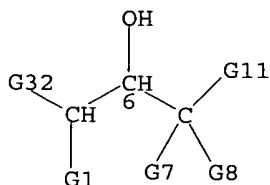
L71 ANSWER 77 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
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 TITLE: Preparation of disubstituted amines for treating  
 Alzheimer's disease  
 INVENTOR(S): Beck, James P.; Gailunas, Andrea; Hom, Roy;  
 Jagodzinska, Barbara; John, Varghese; Maillaird,  
 Michel  
 PATENT ASSIGNEE(S): Elan Pharmaceuticals, Inc., USA; Pharmacia & Upjohn  
 Company  
 SOURCE: PCT Int. Appl., 286 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 5  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2002002518	A3	20020808		
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US 7034182	B2	20060425		
US 2003096864	A1	20030522	US 2001-895871	20010629
EP 1586556	A2	20051019	EP 2005-8935	20010629
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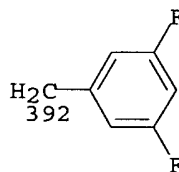
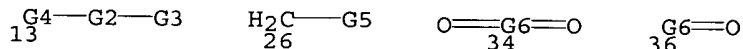
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			EP 2001-950719	20010629
			EP 2001-952352	20010629
			WO 2001-US20856	20010629

AB The title compds. [I; R1 = (un)substituted alkyl, alkenyl, alkynyl, etc.; R2 = H, (un)substituted alkyl, alkenyl, etc.; R3 = H, (un)substituted alkyl, alkenyl, etc.; X = CO, CH2, (CH2)2, CH2CO; A = absent, Ph, cyclohexyl, etc.; R4 = (un)substituted alkyl, OH, NO2, etc.; n = 0-3; Z = CO, SO, SO2, a bond, etc.; R5 = (un)substituted alkyl, (CH2)0-3cycloalkyl, etc.; R6 = H, alkyl, alkenyl, etc.; or N(R6)ZR5 may cyclize to form (un)substituted 5-8 membered heterocyclic ring or fused rings],  $\beta$ -secretase inhibitors which are useful in treating Alzheimer's disease and other similar diseases, were prepared E.g., a multi-step synthesis of (2S,3S)-II, was given. The compds. I exhibited IC50 of < 50  $\mu$ M against  $\beta$ -secretase.

## MSTR 1

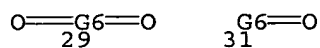


G1 = alkyl <containing 1-6 C> (opt. substd.) / 13 /  
 alkenyl <containing 2-6 C, 1-2 double bonds> (opt. substd.) /  
 alkynyl <containing 2-6 C, 1-2 triple bonds> (opt. substd.) /  
 Ph (opt. substd. by 1 or more G9) / naphthyl /  
 carbocycle <aromatic, 6 or more normalized bonds, bicyclic,  
 (up to 1) 5-membered, (1-2) 6-membered rings only>  
 (opt. substd.) / 26 / heteroaryl <containing zero or more N,  
 zero or more S, zero or more O (no other heteroatoms),  
 mono- or polycyclic> (opt. substd.) / 34 / 36 /  
 heterocycle <non-aromatic, containing zero or more N,  
 zero or more S, zero or more O (no other heteroatoms),  
 5- to 7-membered monocyclic ring> (opt. substd.) /  
 (Specifically claimed: 392 / CH2Ph)



G2 = S / S(O) / SO2  
 G3 = alkyl <containing 1-6 C>  
 G4 = (1-2) CH2  
 G5 = Ph (opt. substd. by 1 or more G9) / naphthyl /  
 carbocycle <aromatic, 6 or more normalized bonds, bicyclic,  
 (up to 1) 5-membered, (1-2) 6-membered rings only>  
 (opt. substd.) / heteroaryl <containing zero or more N,  
 zero or more S, zero or more O (no other heteroatoms),

mono- or polycyclic> (opt. substd.) / 29 / 31 /  
 heterocycle <non-aromatic, containing zero or more N,  
 zero or more S, zero or more O (no other heteroatoms),  
 5- to 7-membered monocyclic ring> (opt. substd.)



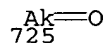
G6 = heterocycle <containing zero or more N,  
 zero or more S, zero or more O (no other heteroatoms),  
 optionally attached through N, 0 or more S, 0 or more C,  
 aromatic, mono- or polycyclic> (opt. substd.) /  
 heterocycle <containing zero or more N, zero or more S,  
 zero or more O (no other heteroatoms),  
 optionally attached through S, 0 or more C, non-aromatic,  
 monocyclic> (opt. substd.)

G7 = H / R

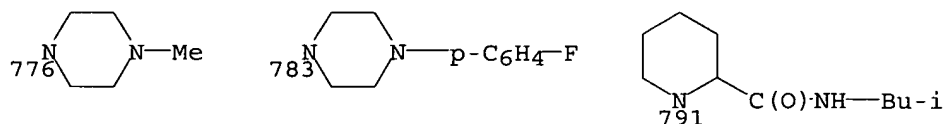
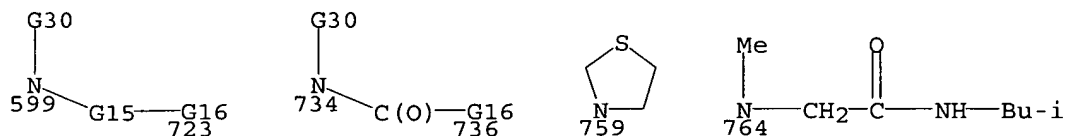
G8 = H / R

G9 = R / (Specifically claimed: F)

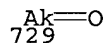
G10 = CH<sub>2</sub> / C(O) / CH<sub>2</sub>CH<sub>2</sub> / 725



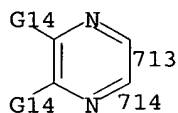
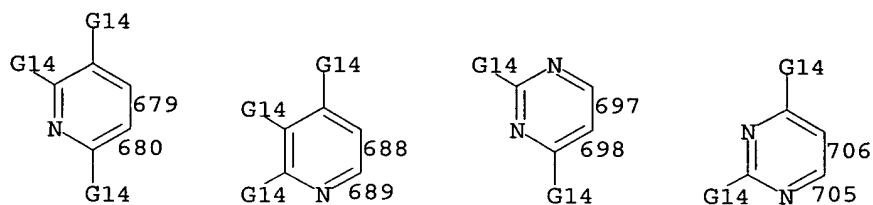
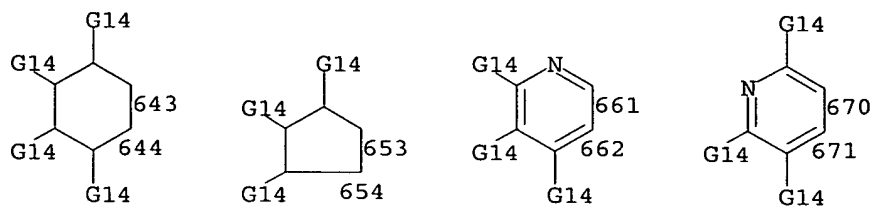
G11 = 599 / 734 / heterocycle <containing 1 or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 mono- or bicyclic, 5-, 6-, 7- or 8-membered rings only>  
 (opt. substd.) / (Specifically claimed: 759 / 764 / 776 /  
 783 / 791)



G12 = CH<sub>2</sub> / C(O) / CH<sub>2</sub>CH<sub>2</sub> / 729



G13 = CH<sub>2</sub>CH<sub>2</sub> (opt. substd.) / CH=CH (opt. substd.) /  
 o-C<sub>6</sub>H<sub>4</sub> (opt. substd.) / 643-604 644-606 / 653-604 654-606 /  
 661-604 662-606 / 679-604 680-606 / 688-604 689-606 /  
 670-604 671-606 / 697-604 698-606 / 706-604 705-606 /  
 713-604 714-606

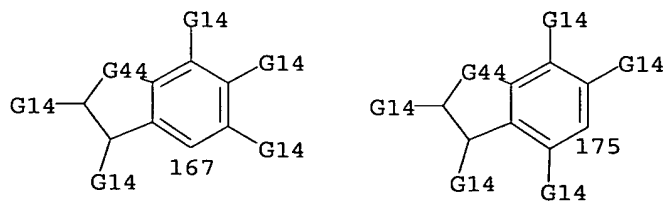


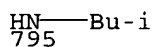
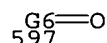
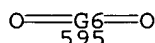
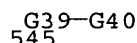
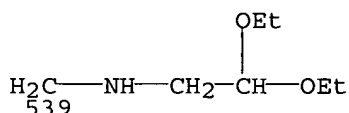
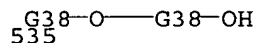
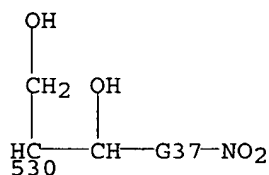
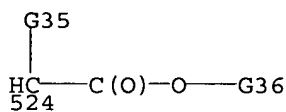
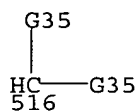
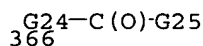
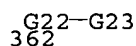
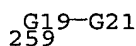
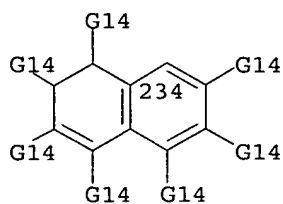
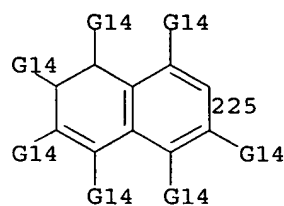
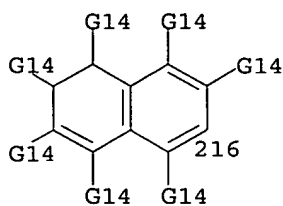
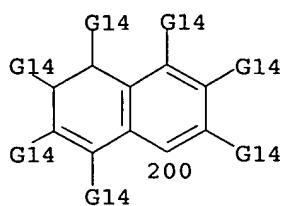
G14 = H / R  
 G15 = S(O) / SO<sub>2</sub> / 719-599 720-723 / bond

C(O)-G43  
 719 720

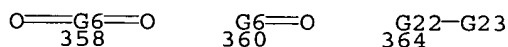
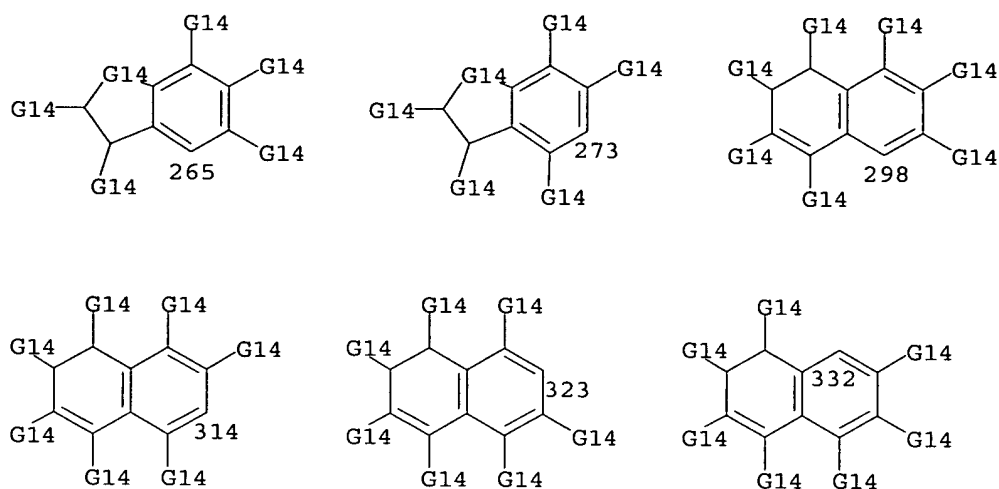
G16 = alkyl <containing 1-10 C> (opt. substd.) /  
 cycloalkyl <containing 3-8 C> (opt. substd.) / **161** /  
 Ph (opt. substd.) / naphthyl / 167 / 175 / 200 / 216 / 225 /  
 234 / 259 / 362 / heterocycle <non-aromatic,  
 containing zero or more N, zero or more S,  
 zero or more O (no other heteroatoms),  
 5- to 7-membered monocyclic ring> (opt. substd.) /  
 heteroaryl <containing zero or more N, zero or more S,  
 zero or more O (no other heteroatoms), mono- or polycyclic>  
 (opt. substd.) / 595 / 597 / **366** / 516 /  
 carbocycle <containing 5 or more C, polycyclic>  
 (opt. substd.) / heterocycle <containing 5 or more C,  
 polycyclic> (opt. substd.) / alkenyl <containing 2-10 C>  
 (opt. substd.) / alkynyl <containing 2-10 C> (opt. substd.) /  
 524 / 530 / 535 / 539 / C(NH)NH<sub>2</sub> (opt. substd.) / 545 /  
 (Specifically claimed: Bu-n / 795)

G17-G18  
 161

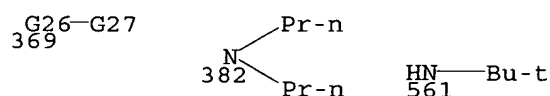




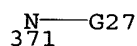
- G17 = (1-3) CH<sub>2</sub>  
 G18 = cycloalkyl <containing 3-8 C> (opt. substd.)  
 G19 = alkylene <containing 1 or more C> (opt. substd.) /  
       G20  
 G20 = (1-4) CH<sub>2</sub>  
 G21 = Ph (opt. substd.) / naphthyl / 265 / 273 / 298 /  
       314 / 323 / 332 / heteroaryl <containing zero or more N,  
       zero or more S, zero or more O (no other heteroatoms),  
       mono- or polycyclic> (opt. substd.) /  
       heterocycle <containing zero or more N, zero or more S,  
       zero or more O (no other heteroatoms), non-aromatic,  
       5- to 7-membered monocyclic ring> (opt. substd.) / 358 /  
       360 / 364



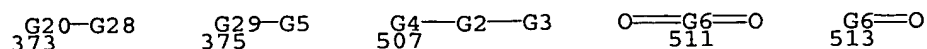
- G22 = arylene <containing 6 or more C> (opt. substd.) / heterocycle <containing 1 or more N, zero or more S, zero or more O, mono- or polycyclic> (opt. substd.)
- G23 = aryl <containing 6 or more C> (opt. substd.) / heterocycle <containing 1 or more N, zero or more S, zero or more O, mono- or polycyclic> (opt. substd.)
- G24 = alkylene <containing 1 or more C> (opt. substd.) / **G17**
- G25 = NH2 / **369** / (Specifically claimed: 382 / 561)



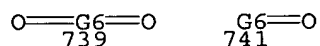
- G26 = NH / **371**



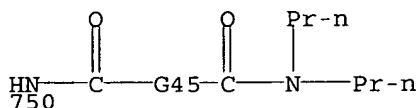
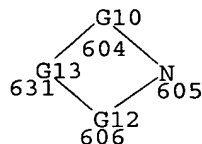
- G27 = alkyl <containing 1-6 C> (opt. substd.) / alkenyl <containing 2-6 C, 1-2 double bonds> (opt. substd.) / alkynyl <containing 2-6 C, 1-2 triple bonds> (opt. substd.) / 507 / cycloalkyl <containing 3-7 C> (opt. substd.) / 373 / 375 / Ph (opt. substd.) / naphthyl / carbocycle <aromatic, 6 or more normalized bonds, bicyclic, (up to 1) 5-membered, (1-2) 6-membered rings only> (opt. substd.) / heteroaryl <containing zero or more N, zero or more S, zero or more O (no other heteroatoms), mono- or polycyclic> (opt. substd.) / 511 / 513 / heterocycle <containing zero or more N, zero or more S, zero or more O (no other heteroatoms), non-aromatic, 5- to 7-membered monocyclic ring> (opt. substd.)



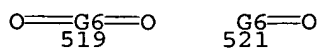
- G28 = cycloalkyl <containing 3-7 C> (opt. substd.)  
 G29 = alkylene <containing 1-4 C>  
 G30 = H / alkyl <containing 1-10 C> (opt. substd.) /  
 alkenyl <containing 2-10 C> (opt. substd.) /  
 alkyl <containing 2-10 C> (opt. substd.) /  
 Ph (opt. substd.) / alkyl <containing 1-4 C>  
 (substd. by G31) / (Specifically claimed: Me / Et)  
 G31 = Ph (opt. substd.) / naphthyl /  
 carbocycle <aromatic, 6 or more normalized bonds, bicyclic,  
 (up to 1) 5-membered, (1-2) 6-membered rings only>  
 (opt. substd.) / cycloalkyl <containing 3-7 C> /  
 heteroaryl <containing zero or more N, zero or more S,  
 zero or more O (no other heteroatoms), mono- or polycyclic>  
 (opt. substd.) / 739 / 741 / heterocycle <containing zero or  
 more N, zero or more S, zero or more O (no other heteroatoms)  
 , non-aromatic, 5- to 7-membered monocyclic ring>  
 (opt. substd.)



- G32 = 605 / NH2 (opt. substd.) / 744 / 747 /  
 alkylamino <containing 1 or more C> (opt. substd.) /  
 (Specifically claimed: 750)



- G33 = NH (opt. substd.)  
 G34 = R / carbon chain <containing 1 or more C>  
 (opt. substd.) / carbocycle <containing 3 or more C>  
 (opt. substd.) / heterocycle <containing zero or more N,  
 zero or more O, zero or more S (no other heteroatoms)>  
 (opt. substd.)  
 G35 = Ph (opt. substd.) / naphthyl /  
 carbocycle <aromatic, 6 or more normalized bonds, bicyclic,  
 (up to 1) 5-membered, (1-2) 6-membered rings only>  
 (opt. substd.) / heteroaryl <containing zero or more N,  
 zero or more S, zero or more O (no other heteroatoms),  
 mono- or polycyclic> (opt. substd.) / 519 / 521



G36 = alkyl <containing 1-4 C>  
 G37 = phenylene  
 G38 = alkylene <containing 1-6 C>  
 G39 = (1-6) CH2  
 G40 = C(NH)NH2 (opt. substd.)  
 G43 = O / S / NH (opt. substd.)  
 G44 = (1-3) CH2 (opt. substd.)  
 G45 = m-C6H4 (opt. substd. by G46)  
 G46 = R / Me

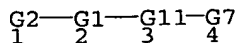
Generic group attributes: 725 729 <containing 2 C, saturated>  
 Patent location: claim 1  
 Note: or pharmaceutically acceptable salts  
 Note: additional ring formation also claimed  
 Note: substitution is restricted  
 Note: also incorporates claim 15

L71 ANSWER 78 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 136:69807 MARPAT  
 TITLE: Preparation of pyrazolopyridine compounds and use thereof as remedies for fibrosis  
 INVENTOR(S): Kawasaki, Hisashi; Ozawa, Koichi; Yamamoto, Kazuhiko  
 PATENT ASSIGNEE(S): Japan Tobacco Inc., Japan  
 SOURCE: PCT Int. Appl., 91 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

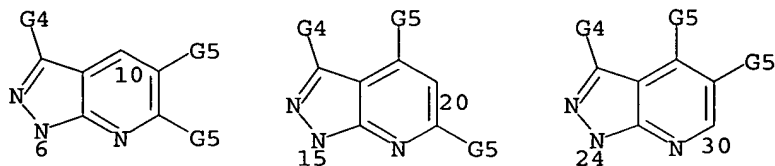
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001098301	A1	20011227	WO 2001-JP5187	20010618
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JP 2004123537	A2	20040422	JP 2000-185067	20000620
JP 2004123539	A2	20040422	JP 2001-70593	20010313
PRIORITY APPLN. INFO.:			JP 2000-185067	20000620
			JP 2001-70593	20010313
AB Title compds. I [R1, R2, R3 each independently = C1-8 alkyl; R4 = H, CH3; R5, R6 each independently = H, C1-8 alkyl, C1-6 alkoxy, halogeno; X = NH, O, CH2, CHCH3, ; W = NH, NCH3, single bond, O, NCO2CH2C6H5, NCO2C6H5, NCO2CH2C6H5; Y = NH, :N, CO, CH2, O, :CH, NCH3, NCO2CH3, NCO2C6H5, NCO2C(CH3)3, 4-BrC6H4NHCON, 4-ClC6H4NHCON, 3,5-Cl2C6H3NHCON, NCOOCH2C6H5, single bond; Z = CO, CH2, O, single bond] and pharmaceutically acceptable salts, act specifically on Edg-5, which is sphingosine-1-phosphate receptor, are prepared and are useful as fibrosis remedies. Thus, the title compound II was prepared and biol. tested for inhibition of hAGR16 (IC50 = 0.017 µM), rAGR16 (IC50 = 0.015 µM), hEdg3 (4.2% 10µ), and HLF (IC50 = 0.13 µM).				

MSTR 1





G1 = 6-1 10-3 / 15-1 20-3 / 24-1 30-3



G2 = H / alkyl <containing 1-8 C> / 32 /  
(Specifically claimed: Me)

$\text{C(=O)-G3}$   
32

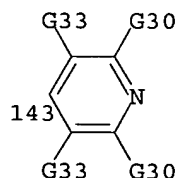
G3 = alkyl <containing 1-8 C> / aryl (opt. substd.) /  
alkyl <containing 1-8 C> (substd. by Ph (opt. substd.)) /  
alkoxy <containing 1-6 C> / aryloxy (opt. substd.) /  
alkoxy <containing 1-4 C> (substd. by Ph (opt. substd.)) /  
(Specifically claimed: Ph / OPh)

G4 = alkyl <containing 1-8 C> / aryl (opt. substd.) /  
(Specifically claimed: Ph / Me)

G5 = H / alkyl <containing 1-8 C>  
(opt. substd. by 1 or more G6) / alkoxy <containing 1-6 C> /  
alkoxycarbonyl <containing 1-6 C> /  
cycloalkyl <containing 3-7 C> / aryl (opt. substd.) /  
(Specifically claimed: Ph / Pr-i / Me)

G6 = F / Cl / Br / I

G7 = aryl (opt. substd. by 1 or more G8) /  
heterocycle <containing 5-10 atoms, 1-3 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), mono- or bicyclic,  
(up to 1) 5-membered, 0 or more 6-membered rings only>  
(opt. substd. by 1 or more G8) /  
cycloalkyl <containing 3-7 C> (opt. substd. by 1 or more G8)  
/ (Specifically claimed: Ph (opt. substd. by 1 or more G29) /  
2-pyridyl (opt. substd.) / 3-pyridyl (opt. substd.) / 143 /  
2-thienyl (opt. substd. by 1 or more G31) /  
3-thienyl (opt. substd. by 1 or more G32))



G8 = (up to 2) G9 / R

G9 = alkyl <containing 1-8 C>  
(opt. substd. by 1 or more G6) / alkoxy <containing 1-6 C> /  
alkoxycarbonyl <containing 1-6 C> / CO<sub>2</sub>H /

alkynyl <containing 2-6 C> / F / Cl / Br / I / CN / NO<sub>2</sub> /  
 alkylamino <containing 1-8 C> /  
 dialkylamino <each alkyl containing 1-8 C> / CHO /  
 alkylcarbonyl <containing 1-5 C> /  
 arylcarbonyl (opt. substd.) / OH / aryloxy (opt. substd.) /  
 alkoxy <containing 1-4 C> (substd. by Ph (opt. substd.)) /  
 aryl (opt. substd.) / alkyl <containing 1-8 C>  
 (substd. by Ph (opt. substd.)) / alkyl (substd. by alkoxy) /  
 43 / (Specifically claimed: CPh / OPh / Ph)

$\text{C}(\text{O})\text{NH}-\text{G10}$   
 43

G10 = aryl (opt. substd.) / alkyl <containing 1-8 C>  
 (substd. by Ph (opt. substd.)) / (Specifically claimed: Ph)  
 G11 = NH / 46 / O / 51 / 53-2 54-4 / 55-2 56-4 /  
 66-2 67-4 / 70-2 71-4 / 81-2 83-4 /  
 84-2 86-4 /  
 87-2 89-4 / 90-2 92-4 / 105-2 107-4 / 108-2  
 111-4 /  
 112-2 115-4 / 154-2 156-4 / 157-2 160-4

$\text{N}-\text{G12}$       $\text{HC}-\text{G14}$       $\text{G16}-\text{G17}$       $\text{G15}=\text{G15}$       $\text{G16}-\text{G20}$       $\text{G16}-\text{G22}$   
 46            51            53 54            55 56            66 67            70 71

$\text{G16}-\text{G17}-\text{G20}$       $\text{G15}=\text{G15}-\text{G20}$       $\text{G16}-\text{G34}-\text{G24}$       $\text{G15}=\text{G15}-\text{G25}$   
 81            83            84            86            87 88 89            90 91 92

$\text{G16}-\text{G20}-\text{G26}$       $\text{G16}-\text{G34}-\text{G20}-\text{G27}$       $\text{G15}=\text{G15}-\text{G20}-\text{G28}$       $\text{G16}-\text{G35}-\text{G36}$   
 105 106 107            108            110 111            112            114 115            154 155 156

$\text{G16}-\text{G35}-\text{G20}-\text{G37}$   
 157            159 160

G12 = alkyl <containing 1-8 C> / 48

$\text{HN}-\text{C}(\text{O})-\text{G13}$   
 48

G13 = OH / alkoxy <containing 1-6 C>  
 G14 = H / alkyl <containing 1-8 C>  
 G15 = CH / N  
 G16 = NH / 57 / O / 59

$\text{N}-\text{G12}$       $\text{HC}-\text{G14}$   
 57            59

G17 = NH / 61 / CH<sub>2</sub> / O / C(O)

$\text{N} \text{---} \text{G18}$   
61

G18 = alkyl <containing 1-8 C> /  
alkyl <containing 1-8 C> (substd. by Ph (opt. substd.)) /  
alkoxycarbonyl <containing 1-6 C> / 63

$\text{C}(\text{O}) \text{---} \text{G19} \text{---} \text{G10}$   
63

G19 = O / NH  
G20 = 68 / CH2 / O

$\text{C} \text{= G21}$   
68

G21 = O / S  
G22 = NH / 72 / O / C(O) / 77-70 78-4 / CH2 /  
79-70 80-4

$\text{N} \text{---} \text{G23}$        $\text{C}(\text{O}) \text{---} \text{NH}$        $\text{HN} \text{---} \text{CH}_2$   
72                      77    78                      79    80

G23 = alkyl <containing 1-8 C> / 74 /  
alkyl <containing 1-8 C> (substd. by heterocycle <containing  
5-10 atoms, 1-3 heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms), mono- or bicyclic,  
(up to 1) 5-membered, 0 or more 6-membered rings only>)

$\text{C}(\text{O}) \text{---} \text{O} \text{---} \text{G10}$   
74

G24 = NH / 93 / O / C(O) / 95-88 96-4 / CH2 /  
97-88 98-4

$\text{N} \text{---} \text{G23}$        $\text{C}(\text{O}) \text{---} \text{NH}$        $\text{HN} \text{---} \text{CH}_2$   
93                      95    96                      97    98

G25 = NH / 99 / O / C(O) / 101-91 102-4 / CH2 /  
103-91 104-4

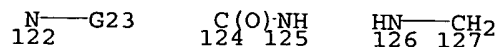
$\text{N} \text{---} \text{G23}$        $\text{C}(\text{O}) \text{---} \text{NH}$        $\text{HN} \text{---} \text{CH}_2$   
99                      101   102                      103   104

G26 = NH / 116 / O / C(O) / 118-106 119-4 / CH2 /  
120-106 121-4

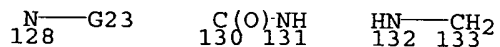
$\text{N} \text{---} \text{G23}$        $\text{C}(\text{O}) \text{---} \text{NH}$        $\text{HN} \text{---} \text{CH}_2$   
116                      118   119                      120   121

G27 = NH / 122 / O / C(O) / 124-110 125-4 / CH2 /

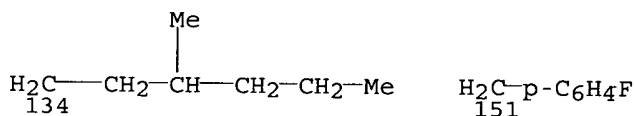
126-110 127-4



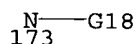
G28 = NH / 128 / O / C(O) / 130-114 131-4 / CH2 /  
132-114 133-4



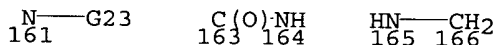
G29 = R / Me / CO2Me / Br / CH2OMe / Cl  
G30 = H / R / Cl / Pr-n / Pr-i / Bu-i / CH2CH2CHMe2 /  
OMe / Me / 134 / pentyl / hexyl / Bu-n / Ph / CH2CH2Ph /  
heptyl / 151 / OEt / OCH2Ph / Et



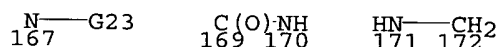
G31 = R / Br / Cl / Me  
G32 = R / Cl  
G33 = H / R  
G34 = NH / 173 / O



G35 = CH2 / C(O)  
G36 = NH / 161 / O / C(O) / 163-155 164-4 / CH2 /  
165-155 166-4



G37 = NH / 167 / O / C(O) / 169-159 170-4 / CH2 /  
171-159 172-4



Patent location: claim 1  
Note: substitution is restricted  
Note: or pharmacologically acceptable salts

REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 79 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 135:344724 MARPAT

TITLE: Preparation of amino acid amide and dipeptide  
derivatives and antiviral drugs containing the same  
INVENTOR(S): Yamazaki, Toru; Maruoka, Hiroshi; Suzuki, Shigeru;

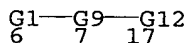
Mukade, Tsutomu; Hirose, Kunitaka; Yanaka, Mikiro;  
 Yamamoto, Naoki  
 PATENT ASSIGNEE(S): Kureha Chemical Industry Co., Ltd., Japan  
 SOURCE: PCT Int. Appl., 226 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001079168	A1	20011025	WO 2001-JP3123	20010411
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
AU 2001048753	A5	20011030	AU 2001-48753	20010411
CA 2405690	AA	20021009	CA 2001-2405690	20010411
EP 1273571	A1	20030108	EP 2001-921809	20010411
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
US 2004092556	A1	20040513	US 2002-257340	20021121
PRIORITY APPLN. INFO.:			JP 2000-114067	20000414
			WO 2001-JP3123	20010411

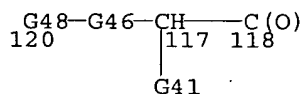
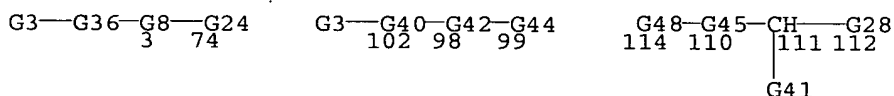
AB Novel nitrogenous compds. represented by general formula  
 $A1-(CH_2)_{n1}-W-X-CH[(CH_2)_{n2}-A2]-Y-D$  [ $n1 = 0-3$ ;  $n2 = 0-4$ ;  $A1, A2 =$   
 (un)substituted guanidino or amidino,  $A3-B1-NR1-$ ,  $A3-CR2A4-NR1-$ ; wherein  
 $A3, A4 =$  (un)substituted 5- to 12-membered mono- or polycyclic  
 heterocyclyl which may be partially saturated;  $B1 =$  single bond,  $CR2R3$ ;  $R1,$   
 $R2, R3 = H,$  (un)substituted C1-6 alkyl, C2-6 alkenyl or alkynyl, or  $R2$  is  
 bonded to  $R1$  or  $R3$  to form a ring;  $W =$  (un)substituted C1-7 alkylene, C2-7  
 alkenylene, C2-7 alkynylene, or group B [wherein group B = C3-10 mono- or  
 polycyclic alkylene, (un)substituted 6- to 15-membered ring mono or  
 polycyclic aryl which may be partially saturated, or (un)substituted 6- to  
 15-membered ring mono or polycyclic heterocyclyl optionally containing 1-3 of  
 O, S, and N atoms and optionally partially saturated];  $D = -W1-G1-G2-W2-G3$ ;  $W1$   
 $= O, S,$  (un)substituted  $NR4$  or  $NHNR4$  ( $R4 = H, -G1'-G1'-G2'-W2'-G3'$ );  $G1,$   
 $G1' =$  single bond, (un)substituted C1-10 alkylene or C2-10 alkenylene or  
 alkynylene, etc.;  $G2, G2' =$  single bond, group B;  $W2, W2' =$  single bond, O,  
 S, (un)substituted NH, etc.;  $G3, G3' = H,$  (un)substituted and linear or  
 branched C1-6 alkyl, C2-6 alkenyl, group B, etc.;  $X = -Z1-Z-Z2-$ ; wherein  $Z$   
 $= CO, S, SO, SO2,$  (un)substituted  $CH2$ ;  $Z1, Z2 =$  single bond, O, S,  
 (un)substituted NH;  $Y = CO, S, SO, SO2$ ] are prepared. These compds. possess  
 excellent antiretroviral activity and protective activity for cells  
 infected with HIV-1 and are useful for the treatment of AIDS or  
 AIDS-related complications. Thus,  $N\alpha$ -deprotection of  
 $N\alpha$ -Fmoc-N $\delta$ -Boc-L-ornithine (1S)-1-(1-naphthyl)ethylamide with  
 diethylamine in DMF followed by condensation with 4-[N-Boc-N-(1-  
 methylimidazol-2-yl)aminomethyl]benzoic acid using 1-ethyl-3-(3-  
 dimethylaminopropyl)carbodiimide hydrochloride and HOBt in DMF gave  
 $N\alpha$ -[4-[(1-methylimidazol-2-yl)amino]methyl]benzoyl]-N $\delta$ -Boc-L-  
 ornithine N-[(1S)-1-(1-naphthyl)ethyl]amide which underwent  
 N $\delta$ -deprotection with a mixture of 4 M HCl/dioxane and methanol at room  
 temperature for 2 h and reductive amination with 5,6,7,8-tetrahydroquinolin-8-

one using sodium cyanoborohydride in methanol, followed by treatment with HCl to give (2S)-2-[[4-[[[(1-methylimidazol-2-yl)amino]methyl]benzoyl]amino]-5-(5,6,7,8-tetrahydroquinolin-8-ylamino)valeric acid N-[(1S)-1-(1-naphthyl)ethyl]amide hydrochloride (I.xHCl). I.xHCl in vitro EC50 of 0.025  $\mu$ M for inhibiting the cell injury of MT-4 cells infected with HIV-1IIIIB. A tablet formulation containing N $\alpha$ -[4-(N-2-picolylaminomethyl)-1-naphthylcarbonyl]-L-arginyl-D-3-(1-naphthyl)alanine was prepared

## MSTR 1

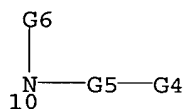


G1 = 74 / 99 / 112 / 118



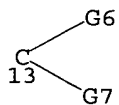
G2 = bond / alkylene <containing 1-4 C, unbranched>

G3 = NO2 / CN / alkyl <containing 1-6 C> / NHC(NH)NH2 / C(NH)NH2 / 10



G4 = heteroaryl <containing up to 12 atoms, 1-6 heteroatoms, 0-4 N> (opt. substd.) / heterocycle <containing 5-12 atoms, 1-5 heteroatoms, 0-3 N, 1 or more double bonds> (opt. substd.)

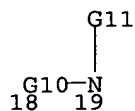
G5 = bond / 13



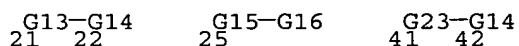
G6 = H / alkyl <containing 1-6 C> (opt. substd.) / alkenyl <containing 2-6 C> (opt. substd.) / alkynyl <containing 2-6 C> (opt. substd.)

G7 = H / alkyl <containing 1-6 C> (opt. substd.) / alkenyl <containing 2-6 C> (opt. substd.) / alkynyl <containing 2-6 C> (opt. substd.) / heteroaryl <containing up to 12 atoms, 1-6 heteroatoms, 0-4 N> (opt. substd.) / heterocycle <containing 5-12 atoms, 1-5 heteroatoms, 0-3 N, 1 or more double bonds>

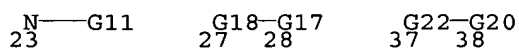
(opt. substd.)  
 G8 = cycloalkylene <containing 3-10 C> (opt. substd.) /  
 carbocycle <containing 6-15 C, 1 or more double bonds>  
 (opt. substd.) / heterocycle <containing 3-15 atoms,  
 1-3 heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.)  
 G9 = O / S / 18-6 19-17



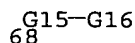
G10 = bond / NH  
 G11 = H / R  
 G12 = H / alkyl <containing 1-6 C> (opt. substd.) /  
 alkenyl <containing 2-6 C, 1-2 double-exact bonds>  
 (opt. substd.) / alkynyl <containing 2-6 C, 1-2 triple bonds>  
 (opt. substd.) / cycloalkyl <containing 3-10 C>  
 (opt. substd.) / 25 / carbocycle <containing 6-15 C,  
 1 or more double bonds> (opt. substd.) /  
 heterocycle <containing 3-15 atoms, 1-3 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.) / 41 /  
 21



G13 = O / S / 23 / cycloalkylene <containing 3-10 C>  
 (opt. substd.) / carbocycle <containing 6-15 C,  
 1 or more double bonds> (opt. substd.) /  
 heterocycle <containing 3-15 atoms, 1-3 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.) /  
 37-7 38-22 / 27-7 28-22



G14 = H / alkyl <containing 1-6 C> (opt. substd.) /  
 alkenyl <containing 2-6 C, 1-2 double-exact bonds>  
 (opt. substd.) / alkynyl <containing 2-6 C, 1-2 triple bonds>  
 (opt. substd.) / cycloalkyl <containing 3-10 C>  
 (opt. substd.) / 68 / carbocycle <containing 6-15 C,  
 1 or more double bonds> (opt. substd.) /  
 heterocycle <containing 3-15 atoms, 1-3 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.)



G15 = alkylene <containing 1-9 C> (opt. substd.)  
 G16 = aryl <containing 6-14 C> (opt. substd.)  
 G17 = O / S / 29

N—G11  
29

G18 = alkylene <containing 1-10 C> (opt. substd.) /  
alkenylene <containing 2-10 C, 1-2 double bonds>  
(opt. substd.) / alkynylene <containing 2-10 C,  
1-2 triple bonds> (opt. substd.) / 31-7 32-28 /  
cycloalkylene <containing 3-10 C> (opt. substd.) /  
carbocycle <containing 6-15 C, 1 or more double bonds>  
(opt. substd.) / heterocycle <containing 3-15 atoms,  
1-3 heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.) /  
33-7 34-28

G19—C(O)      G21—G20  
31 32      33 34

G19 = alkylene <containing 1-3 C> (opt. substd.)  
G20 = cycloalkylene <containing 3-10 C> (opt. substd.) /  
carbocycle <containing 6-15 C, 1 or more double bonds>  
(opt. substd.) / heterocycle <containing 3-15 atoms,  
1-3 heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.)  
G21 = alkylene <containing 1-10 C> (opt. substd.) /  
alkenylene <containing 2-10 C, 1-2 double bonds>  
(opt. substd.) / alkynylene <containing 2-10 C,  
1-2 triple bonds> (opt. substd.) / 35-7 36-34

G19—C(O)  
35 36

G22 = alkylene <containing 1-10 C> (opt. substd.) /  
alkenylene <containing 2-10 C, 1-2 double bonds>  
(opt. substd.) / alkynylene <containing 2-10 C,  
1-2 triple bonds> (opt. substd.) / 39-7 40-38

G19—C(O)  
39 40

G23 = alkylene <containing 1-10 C> (opt. substd.) /  
alkenylene <containing 2-10 C, 1-2 double bonds>  
(opt. substd.) / alkynylene <containing 2-10 C,  
1-2 triple bonds> (opt. substd.) / 43-7 44-42

G19—C(O)  
43 44

G24 = 4-3 52-7 / 75-3 77-7

G25—CH—G28      G37—CH—C(O)  
4    5 52      75    76 77  
      |           |  
      G29      G29



G25 = C(O) / S / S(O) / SO2 / CH2 (opt. substd.) /  
 48-3 49-5 / 50-3 51-5 / 53-3 54-5 / 47-3 63-5 /  
 55-3 56-5 / 66-3 67-5 / 57-3 59-5 / 156-3 158-5

H<sub>2</sub>C—G34      G33—G28      G32—G26      G26—G34      G35—CH<sub>2</sub>  
 47   63      48   49      50   51      53   54      55   56

H<sub>2</sub>C—G34—CH<sub>2</sub>      G34—CH<sub>2</sub>      G26—G34—CH<sub>2</sub>  
 57   59      66   67      156   158

G26 = O / S / NH (opt. substd.)  
 G27 = C(O) / S / S(O) / SO2 / CH2 (opt. substd.)  
 G28 = S / S(O) / SO2  
 G29 = 8 / 60 / alkyl <containing 1-10 C>

G2—G30      G2—G31  
 8      60

G30 = NO2 / NHC(NH)NH2 / 70

G6  
 |  
 N—G5—G4  
 70

G31 = CN / C(NH)NH2  
 G32 = C(O) / S / S(O) / SO2 / CH2 (opt. substd.) /  
 45-3 46-51 / 154-3 155-51

G26—G27      H<sub>2</sub>C—G27  
 45   46      154   155

G33 = O / S / NH (opt. substd.) / CH2  
 G34 = C(O) / CH2 (opt. substd.)  
 G35 = S / S(O) / SO2 / 64-3 65-56

G33—G28  
 64   65

G36 = bond / alkylene <containing 1-3 C, unbranched>  
 G37 = C(O) / S / S(O) / SO2 / CH2 (opt. substd.) /  
 79-3 80-76 / 81-3 82-76 / 85-3 86-76 / 87-3  
 88-76 /  
 89-3 90-76 / 93-3 94-76 / 95-3 97-76 / 161-3 163-76

G33—G28      G38—G26      G26—G34      H<sub>2</sub>C—G34      G39—CH<sub>2</sub>      G34—CH<sub>2</sub>  
 79   80      81   82      85   86      87   88      89   90      93   94

H<sub>2</sub>C—G34—CH<sub>2</sub>      G26—G34—CH<sub>2</sub>  
 95   97      161   163

G38 = C(O) / S / S(O) / SO2 / CH2 (opt. substd.) /  
83-3 84-82 / 159-3 160-82

$\begin{array}{c} \text{G26-G27} \\ 83 \quad 84 \end{array} \quad \begin{array}{c} \text{H}_2\text{C}-\text{G27} \\ 159 \quad 160 \end{array}$

G39 = S / S(O) / SO2 / 91-3 92-90

$\begin{array}{c} \text{G33-G28} \\ 91 \quad 92 \end{array}$

G40 = carbon chain <containing 1-10 C,  
0 or more double bonds, 0 or more triple bonds>  
(opt. substd.)

G41 = NO2 / CN / alkyl <containing 1-10 C>  
(opt. substd.) / NHC(NH)NH2 / C(NH)NH2 / 122

$\begin{array}{c} \text{G6} \\ | \\ \text{N}-\text{G5}-\text{G4} \\ 122 \end{array}$

G42 = S / S(O) / SO2 / 126-102 127-99 / 128-102 129-99

$\begin{array}{c} \text{G33-G28} \\ 126 \quad 127 \end{array} \quad \begin{array}{c} \text{G43-G26} \\ 128 \quad 129 \end{array}$

G43 = C(O) / S / S(O) / SO2 / CH2 (opt. substd.) /  
130-102 131-129 / 164-102 165-129

$\begin{array}{c} \text{G26-G27} \\ 130 \quad 131 \end{array} \quad \begin{array}{c} \text{H}_2\text{C}-\text{G27} \\ 164 \quad 165 \end{array}$

G44 = 109-98 100-7 / 105-98 106-7

$\begin{array}{c} \text{HC}-\text{G28} \\ 109 \quad 100 \\ | \\ \text{G41} \end{array} \quad \begin{array}{c} \text{HC}-\text{C(O)} \\ 105 \quad 106 \\ | \\ \text{G41} \end{array}$

G45 = C(O) / CH2 (opt. substd.) / 108-114 104-111 /  
132-114 133-111 / 134-114 135-111 / 138-114 139-111 /  
140-114 142-111 / 166-114 168-111

$\begin{array}{c} \text{G26-G34} \\ 108 \quad 104 \end{array} \quad \begin{array}{c} \text{H}_2\text{C}-\text{G34} \\ 132 \quad 133 \end{array} \quad \begin{array}{c} \text{G47-CH}_2 \\ 134 \quad 135 \end{array} \quad \begin{array}{c} \text{G34-CH}_2 \\ 138 \quad 139 \end{array} \quad \begin{array}{c} \text{H}_2\text{C}-\text{G34-CH}_2 \\ 140 \quad 142 \end{array}$

$\begin{array}{c} \text{G26-G34-CH}_2 \\ 166 \quad 168 \end{array}$

G46 = C(O) / CH2 (opt. substd.) / 115-120 121-117 /

143-120 144-117 / 145-120 146-117 / 149-120 150-117 /  
 151-120 153-117 / 169-120 171-117

$\begin{array}{ccccc} \text{G26} & \text{---} & \text{G34} & & \text{H}_2\text{C} & \text{---} & \text{G34} & & \text{G49} & \text{---} & \text{CH}_2 & & \text{G34} & \text{---} & \text{CH}_2 & & \text{H}_2\text{C} & \text{---} & \text{G34} & \text{---} & \text{CH}_2 \\ 115 & 121 & & & 143 & 144 & & & 145 & 146 & & & 149 & 150 & & & 151 & & 153 \end{array}$

$\begin{array}{ccccc} \text{G26} & \text{---} & \text{G34} & \text{---} & \text{CH}_2 \\ 169 & & & & 171 \end{array}$

G47 = S / S(O) / SO2 / 136-114 137-135

$\begin{array}{ccccc} \text{G33} & \text{---} & \text{G28} \\ 136 & 137 \end{array}$

G48 = carbon chain <containing 1-10 C,  
 0 or more double bonds, 0 or more triple bonds>  
 (opt. substd.)

G49 = S / S(O) / SO2 / 147-120 148-146

$\begin{array}{ccccc} \text{G33} & \text{---} & \text{G28} \\ 147 & 148 \end{array}$

Patent location:

claim 1

Note:

additional ring formation also claimed

REFERENCE COUNT:

2

THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 80 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 135:195580 MARPAT

TITLE: Bicyclic derivatives of thioazepine or caprolactam  
 with Src SH2 domain inhibitor activity, their  
 preparation method and intermediates produced, their  
 application as medicaments, and pharmaceutical  
 compositions containing them e.g., as bone resorption  
 inhibitors.

PATENT ASSIGNEE(S): Hoechst Marion Roussel, Fr.

SOURCE: Fr. Demande, 61 pp.

CODEN: FRXXBL

DOCUMENT TYPE:

Patent

LANGUAGE:

French

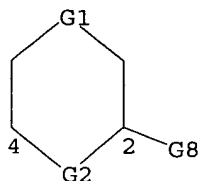
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2796381	A1	20010119	FR 1999-9006	19990712
PRIORITY APPLN. INFO.:			FR 1999-9006	19990712
AB Title compds. I were prepared [wherein: W = CH2 or S; Z = atoms to complete 5- or 6-membered heterocyclic fusion, containing 1-3 heteroatoms (N, O, S, SO, SO2); V (bound at C atom) = R3, OR3, SR3; A0 = (un)substituted (CH2)0-3CONH or (CH2)0-3NHCO; A1 = (un)substituted CH(Z)-alkyl-aryl, CH(Z)-aryl, alkyl-aryl, or aryl; Z = H, tetrazole, (un)substituted NH2 or CONH2; A2 = P(O)(OH)2 or esters, OP(O)(OH)2 or esters, B(OH)2 or esters, various carboxylic or sulfonic acids or their derivs.; Y (optionally				

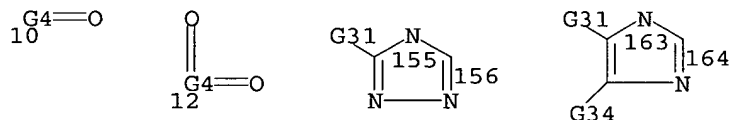
present, bound at C atom) = C:O, C:S, C:NH, or SO<sub>2</sub>; R<sub>1</sub> (optionally present) = OH or NH<sub>2</sub> or derivs., alkyl, halo; R<sub>3</sub> = H, (un)substituted alkyl, cycloalkyl, cycloalkylalkyl, aryl, arylalkyl; including isomers, salts, and/or prodrugs]. Eight specific compds. were prepared and claimed. The compds. are therapeutically useful as inhibitors of the Src SH2 receptor. Claimed uses include treatment of osteoporosis, infection, allergy, autoimmune disease, proliferative diseases including cancer, inflammation, and others. For instance, (9S)-3-(3-cyclohexylpropyl)-5,6,8,9-tetrahydro-1,2,4-triazolo[4,3-d][1,4]thiazepine-9-amine (preparation given) was amidated with Ac-Tyr(CF<sub>2</sub>PO<sub>3</sub>Et<sub>2</sub>)-OH using EDC and HOBT, followed by deprotection of the phosphonate diester, to give title compound II. In a scintillation proximity assay for inhibition of the binding of the ligand [<sup>125</sup>I]-EPQpYEEIPIYL to biotinylated SH2 protein, II had an IC<sub>50</sub> of 1.51 μM, vs. 0.2-0.4 μM for the reference peptide PYEEI.

## MSTR 1

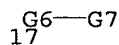


G1 = CH<sub>2</sub> / S

G2 = heteroarylene <containing 1-4 heteroatoms, 1 or more N, zero or more O, zero or more S (no other heteroatoms), 1 or more C, attached through 1 or more N, 1 or more C, monocyclic> (opt. substd. by G30) / 10 / 12 / (Specifically claimed: 155-4 156-2 / 163-4 164-2 )



G3 = alkyl <containing 1-8 C> (opt. substd.) / cycloalkyl <containing 3-18 C> (opt. substd.) / alkyl <containing 1-8 C> (substd. by cycloalkyl <containing 3-18 C> (opt. substd.)) / aryl <containing 6-14 C> (opt. substd.) / heteroaryl <containing 5-14 atoms, 1-5 heteroatoms, zero or more O, zero or more S, zero or more N> (opt. substd.) / alkyl <containing 1-4 C> (substd. by 1 or more G5) / OH / SH / 17



G4 = heterocycle <containing 5-6 atoms, 2-4 heteroatoms, 1 or more N, 1 or more S, zero or more O (no other heteroatoms), 1 or more C, attached through 1 or more N, 1 or more C, 1 or more S, 5- to 6-membered monocyclic ring> (opt. substd.)

G5 = aryl <containing 6-14 C> (opt. substd.) /

heteroaryl <containing 5-14 atoms, 1-5 heteroatoms,  
zero or more O, zero or more S, zero or more N>  
(opt. substd.)

G6 = O / S

G7 = alkyl <containing 1-8 C> (opt. substd.) /  
cycloalkyl <containing 3-18 C> (opt. substd.) /  
alkyl <containing 1-8 C> (substd. by cycloalkyl <containing  
3-18 C> (opt. substd.)) / aryl <containing 6-14 C>  
(opt. substd.) / heteroaryl <containing 5-14 atoms,  
1-5 heteroatoms, zero or more O, zero or more S,  
zero or more N> (opt. substd.) /  
alkyl <containing 1-4 C> (substd. by 1 or more G5)

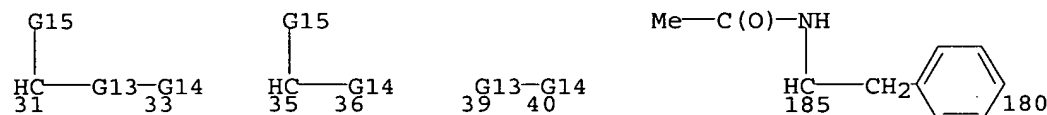
G8 = 7 / NH2

G35-G12-G23  
7 8 9

G9 = NH (opt. substd.)

G10 = alkylene <containing 1 or more C> (opt. substd.)

G12 = 31-7 33-9 / 35-7 36-9 / 39-7 40-9 /  
arylene <containing 6-14 C> (opt. substd.) /  
heteroarylene <containing 5-14 atoms, 1-5 heteroatoms,  
zero or more O, zero or more S, zero or more N>  
(opt. substd.) / (Specifically claimed: 185-7 180-9 /  
p-C6H4)

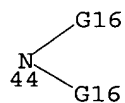


G13 = alkylene <containing 1-4 C>

G14 = arylene <containing 6-14 C> (opt. substd.) /  
heteroarylene <containing 5-14 atoms, 1-5 heteroatoms,  
zero or more O, zero or more S, zero or more N>  
(opt. substd.)

G15 = H / tetrazolyl / NH2 / 41 / 44 / 46 / 49 / 53 / 58

HN-G16  
41



HN-C(O)-G17  
46

C(O)-G18  
49

HN-C(O)-G19  
53

HN-G21  
58

G16 = alkyl <containing 1-8 C> (opt. substd.) /  
cycloalkyl <containing 3-18 C> (opt. substd.) /  
alkyl <containing 1-8 C> (substd. by cycloalkyl <containing  
3-18 C> (opt. substd.)) / aryl <containing 6-14 C>  
(opt. substd.) / heteroaryl <containing 5-14 atoms,  
1-5 heteroatoms, zero or more O, zero or more S,  
zero or more N> (opt. substd.) /  
alkyl <containing 1-4 C> (substd. by 1 or more G5)

G17 = H / alkyl <containing 1-8 C> (opt. substd.) /

cycloalkyl <containing 3-18 C> (opt. substd.) /  
 alkyl <containing 1-8 C> (substd. by cycloalkyl <containing  
 3-18 C> (opt. substd.)) / aryl <containing 6-14 C>  
 (opt. substd.) / heteroaryl <containing 5-14 atoms,  
 1-5 heteroatoms, zero or more O, zero or more S,  
 zero or more N> (opt. substd.) /  
 alkyl <containing 1-4 C> (substd. by 1 or more G5)

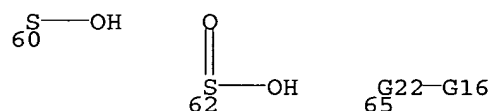
G18 = NH<sub>2</sub> / 51

HN—G16  
 51

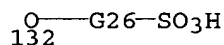
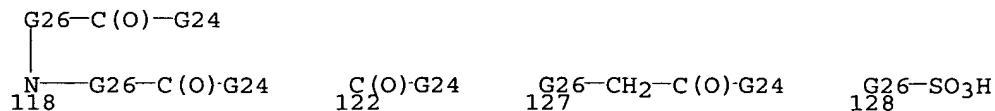
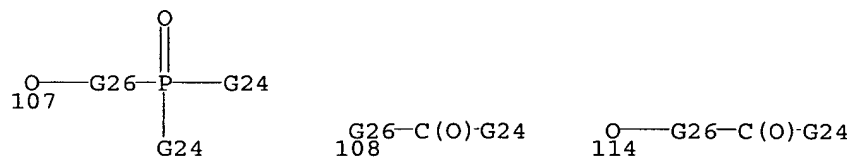
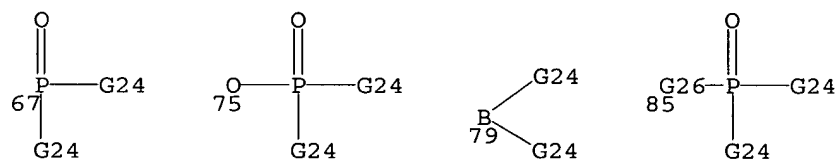
G19 = OH / NH<sub>2</sub> / 56

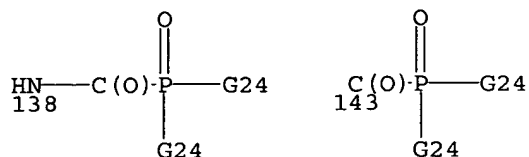
G20—G16  
 56

G20 = O / NH  
 G21 = 60 / 62 / 65

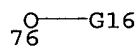


G22 = S(O) / SO<sub>2</sub>  
 G23 = 67 / 75 / 79 / 85 / 107 / 108 / 114 / 118 / 122 /  
 127 / 128 / 132 / SO<sub>3</sub>H / SO<sub>2</sub>NH<sub>2</sub> / 138 / 143

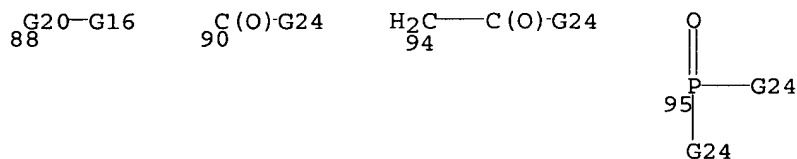




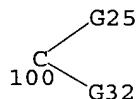
G24 = OH / 76



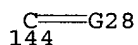
G25 = H / F / Cl / Br / I / OH / 88 / NH2 / 90 / 94 /  
SO3H / 95 / tetrazolyl



G26 = 100 / cycloalkylene <containing 3-6 C,  
attached through 1 C>

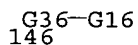


G27 = 144 / SO2

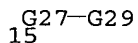


G28 = O / S / NH

G29 = OH / 146 / NH2 / alkyl <containing 1-4 C> / F / Cl /  
Br / I

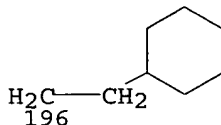
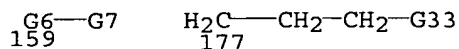


G30 = (up to 1) G3 / (up to 1) 15

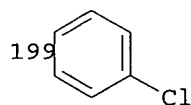


G31 = H / alkyl <containing 1-8 C> (opt. substd.) /  
cycloalkyl <containing 3-18 C> (opt. substd.) /  
alkyl <containing 1-8 C> (substd. by cycloalkyl <containing  
3-18 C> (opt. substd.)) / aryl <containing 6-14 C>

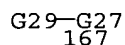
(opt. substd.) / heteroaryl <containing 5-14 atoms,  
 1-5 heteroatoms, zero or more O, zero or more S,  
 zero or more N> (opt. substd.) /  
 alkyl <containing 1-4 C> (substd. by 1 or more G5) / OH /  
 SH / 159 / 177 / Bu-n / 196



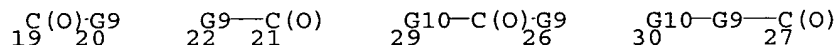
G32 = H / R / F  
 G33 = cyclohexyl / 199



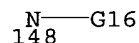
G34 = 167 / CO2Et



G35 = 19-2 20-8 / 22-2 21-8 / 29-2 26-8 / 30-2 27-8



G36 = O / NH / 148



Patent location: claim 1  
 Note: also incorporates claim 15  
 Note: and physiologically acceptable salts and prodrugs  
 Note: additional ring formation also claimed  
 Stereochemistry: and isomers

L71 ANSWER 81 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 135:147427 MARPAT  
 TITLE: Bivalent phenylene inhibitors of factor Xa  
 INVENTOR(S): Zhu, Bing-Yan; Scarborough, Robert  
 PATENT ASSIGNEE(S): Cor Therapeutics, Inc., USA  
 SOURCE: PCT Int. Appl., 68 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2001056989 A2 20010809 WO 2001-US3175 20010201  
 WO 2001056989 A3 20020228

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,  
 CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,  
 HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,  
 LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,  
 SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,  
 YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,  
 DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,  
 BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

US 2002065303 A1 20020530 US 2001-773375 20010201

PRIORITY APPLN. INFO.:

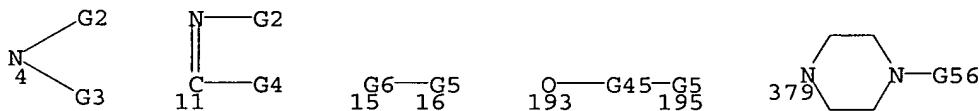
US 2000-179477P 20000201

AB Phenylene compds. (Markush included) having activity against mammalian factor Xa are described. Compns. containing such compds. are also described. The compds. and compns. are useful in vitro or in vivo for preventing or treating conditions in mammals characterized by undesired thrombosis.

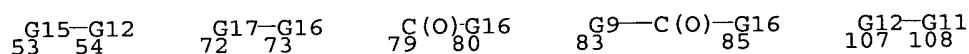
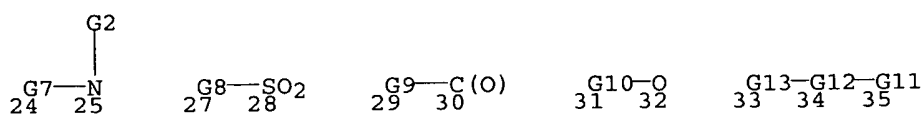
# MSTR 1

G1—G35—G18  
 1 2 3

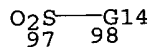
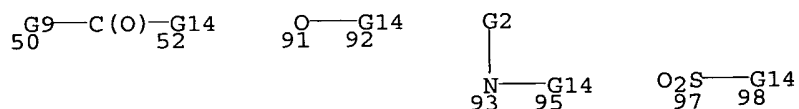
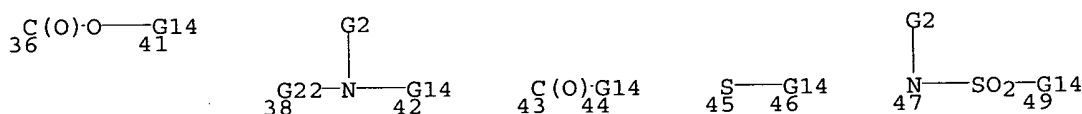
G1 = H / R / 4 / CONH2 (opt. substd.) / 11 / 15 /  
 (Specifically claimed: 193 / 379 / 384)



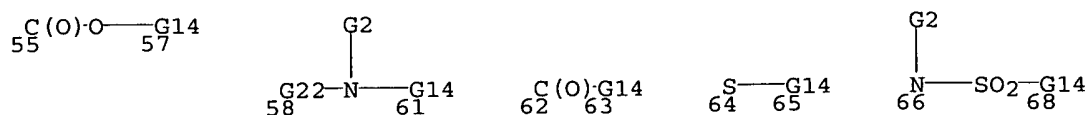
G6 = carbon chain <containing 1-15 C,  
 0 or more double bonds, 0 or more triple bonds>  
 (opt. substd.) / 31-2 32-16 / 24-2 25-16 / C(O) / S /  
 27-2 28-16 / 29-2 30-16 / 72-2 73-16 / 79-2 80-16 /  
 83-2 85-16 / 107-2 108-16 / 33-2 35-16 /  
 cycloalkylene <containing 3-8 C> /  
 arylene <containing 6-8 C> / heterocycle <containing 5-10  
 atoms, 1-4 heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> / 53-2 54-16

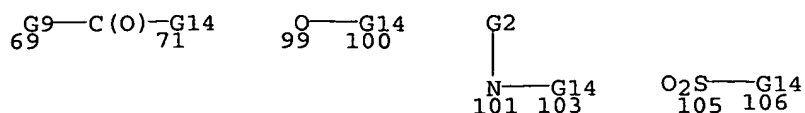


G7 = bond / SO<sub>2</sub> / C(O)  
 G8 = bond / NH (opt. substd.)  
 G9 = O / NH (opt. substd.)  
 G10 = bond / C(O)  
 G11 = alkylene <containing 1-3 C>  
 G12 = cycloalkylene <containing 3-8 C> /  
 arylene <containing 6-8 C> / heterocycle <containing 5-10  
 atoms, 1-4 heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)>  
 G13 = alkylene <containing 1-4 C, unbranched> /  
 91-2 92-34 / 36-2 41-34 / 93-2 95-34 / 38-2 42-34 /  
 43-2 44-34 / 45-2 46-34 / 97-2 98-34 / 47-2 49-34 /  
 50-2 52-34

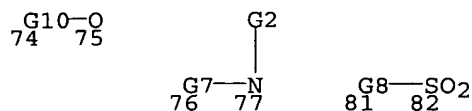


G14 = bond / alkylene <containing 1-3 C>  
 G15 = alkylene <containing 1-4 C, unbranched> /  
 99-2 100-54 / 55-2 57-54 / 101-2 103-54 / 58-2 61-54 /  
 62-2 63-54 / 64-2 65-54 / 105-2 106-54 / 66-2 68-54 /  
 69-2 71-54

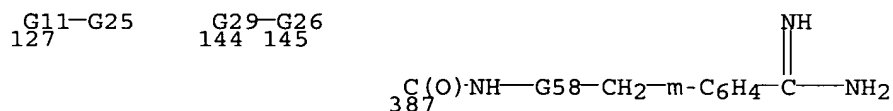
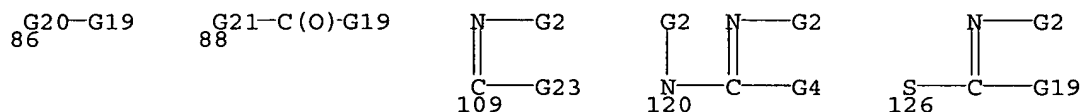




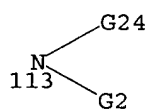
G16 = alkylene <containing 1-6 C, unbranched>  
 G17 = 74-2 75-73 / 76-2 77-73 / S / 81-2 82-73



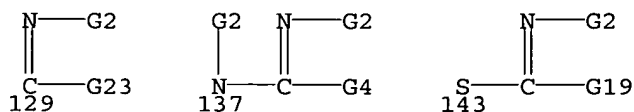
G18 = H / CN / OH (opt. substd.) / NH<sub>2</sub> (opt. substd.) /  
 86 / 88 / 109 / 120 / 126 / 127 / **144** /  
 (Specifically claimed: 387)



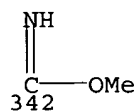
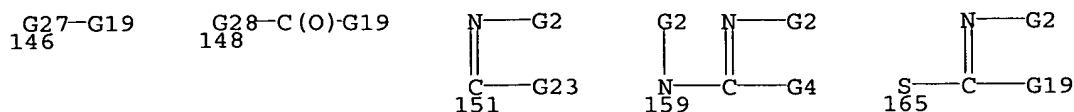
G19 = NH<sub>2</sub> (opt. substd.)  
 G20 = alkylene <containing 1-9 C, unbranched>  
 G21 = bond / alkylene <containing 1-9 C, unbranched>  
 G22 = SO<sub>2</sub> / C(O)  
 G23 = 113 / H / R



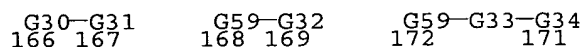
G24 = NH<sub>2</sub> / H / R  
 G25 = H / CN / OH (opt. substd.) / 129 / 137 / 143



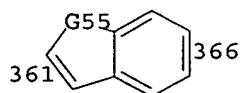
G26 = H / CN / OH (opt. substd.) / NH<sub>2</sub> (opt. substd.) /  
 146 / 148 / 151 / 159 / 165 / (Specifically claimed: 342)



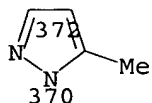
G27 = alkylene <containing 1-6 C, unbranched>  
 G28 = bond / alkylene <containing 1-6 C, unbranched>  
 G29 = O / NH (opt. substd.) / phenylene (opt. substd.) /  
 heteroarylene <containing up to 12 atoms, 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.) /  
 heterocycle <containing 5-10 atoms, 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), non-aromatic>  
 (opt. substd.) / cycloalkylene <containing 3-8 C>  
 (opt. substd.) / 166-2 167-145 / 168-2 169-145 /  
 172-2 171-145



G30 = O / NH (opt. substd.) / phenylene (opt. substd.) /  
 heteroarylene <containing up to 12 atoms, 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.) /  
 heterocycle <containing 5-10 atoms, 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), non-aromatic>  
 (opt. substd.)  
 G31 = cycloalkylene <containing 3-8 C> (opt. substd.) /  
 phenylene (opt. substd.) / heteroarylene <containing up to  
 12 atoms, 1-4 heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.) /  
 heterocycle <containing 5-10 atoms, 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), non-aromatic>  
 (opt. substd.)  
 G32 = O / NH (opt. substd.) /  
 phenylene (opt. substd. by 1 or more G49) /  
 heteroarylene <containing up to 12 atoms, 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.) /  
 heterocycle <containing 5-10 atoms, 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), non-aromatic>  
 (opt. substd.) / cycloalkylene <containing 3-8 C>  
 (opt. substd.) / (Specifically claimed: 361-168 366-145 )



G33 = O / NH (opt. substd.) / phenylene (opt. substd.) / heteroarylene <containing up to 12 atoms, 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms)> (opt. substd.) / heterocycle <containing 5-10 atoms, 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), non-aromatic> (opt. substd.) / (Specifically claimed: 372-172 370-171 )



G34 = cycloalkylene <containing 3-8 C> (opt. substd.) / phenylene (opt. substd.) / heteroarylene <containing up to 12 atoms, 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms)> (opt. substd.) / heterocycle <containing 5-10 atoms, 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), non-aromatic> (opt. substd.)

G35 = phenylene (opt. substd.) / 173-1 174-3

~~G36-G37~~  
173 174

G36 = phenylene (opt. substd.)

G37 = O / 175

N—G38  
175

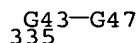
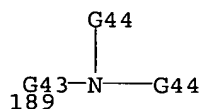
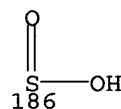
G38 = 177 / 179 / 182 / 186 / 184 / 189 /  
(Specifically claimed: 335)

C(O)—G39  
177

C(O)—O—G40  
179

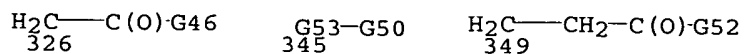
S—G41  
182

O<sub>2</sub>S—G42  
184

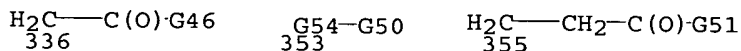


G39 = H / R / (Specifically claimed: 326 / Me / Et / 345 /

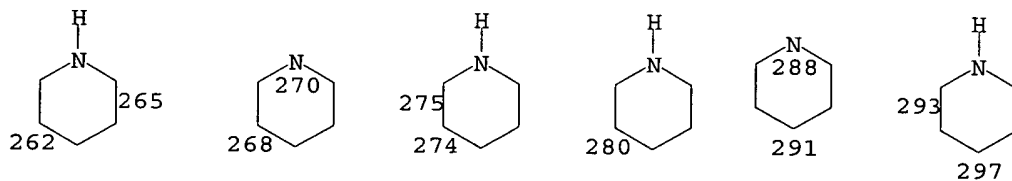
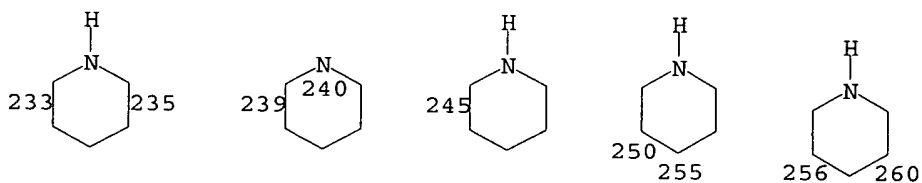
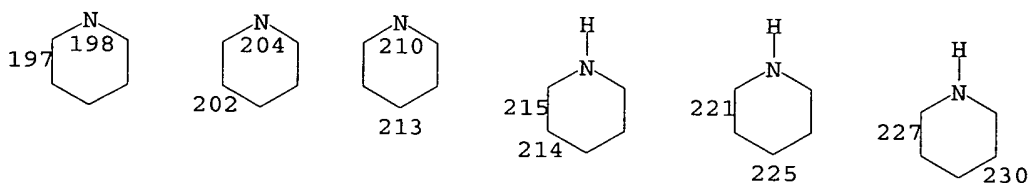
349)

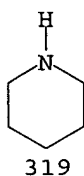
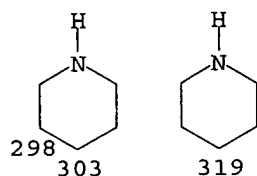


G40 = H / R / (Specifically claimed: Me / Bu-t / Ph / CH<sub>2</sub>Ph)  
 G41 = H / R  
 G42 = R / (Specifically claimed: Me / OH / NH<sub>2</sub> / Bu-t / 353 / CH<sub>2</sub>Ph / 336 / Et / 355)

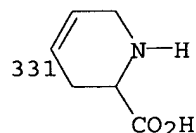


G43 = SO<sub>2</sub> / C(O)  
 G44 = H / R  
 G45 = phenylene / 198-193 197-195 / 204-193 202-195 /  
 210-193 213-195 / 215-193 214-195 / 221-193 225-195 /  
 227-193 230-195 / 233-193 235-195 / 239-193 240-195 /  
 245 / 250-193 255-195 / 256-193 260-195 /  
 262-193 265-195 / 268-193 270-195 / 274-193 275-195 /  
 280 / 291-193 288-195 / 297-193 293-195 /  
 303-193 298-195 / 319

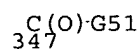




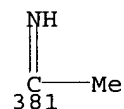
G46 = OMe / OH / **NH2** / OBU-t / OPh / OCH2Ph / piperidino  
 G47 = piperidino / 331



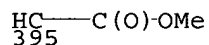
G48 = Me / Et / Pr-i  
 G49 = R / (Specifically claimed: OH)  
 G50 = H / 347



G51 = OH / OMe / OEt  
 G52 = OH / Et  
 G53 = phenylene  
 G54 = phenylene  
 G55 = S / NMe / O  
 G56 = Me / 381



G57 = NH2 / Me  
 G58 = bond / 395



G59 = (1-3) CH2

Patent location:

Note:

Note:

Note:

Stereochemistry:

claim 1

additional substitution and ring formation also  
 claimed

and all pharmaceutically acceptable salts,  
 hydrates, solvates and prodrugs

substitution is restricted

and all pharmaceutically acceptable isomers

L71 ANSWER 82 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 134:353248 MARPAT

TITLE: Novel heterocyclic compounds and their use as

medicines  
 INVENTOR(S): Auvin, Serge; Chabrier De Lassauniere, Pierre-Etienne  
 PATENT ASSIGNEE(S): Societe De Conseils De Recherches Et D'applications  
 Scientifiques (S.C.R.A.S.), Fr.  
 SOURCE: PCT Int. Appl., 77 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: French  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001032654	A2	20010510	WO 2000-FR3067	20001103
WO 2001032654	A3	20010927		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
FR 2800737	A1	20010511	FR 1999-13858	19991105
FR 2800737	B1	20060630		
FR 2809398	A1	20011130	FR 2000-6535	20000523
FR 2809398	B3	20020726		
CA 2389685	AA	20010510	CA 2000-2389685	20001103
BR 2000015315	A	20020625	BR 2000-15315	20001103
EP 1233962	A2	20020828	EP 2000-974646	20001103
EP 1233962	B1	20060301		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2003513092	T2	20030408	JP 2001-534805	20001103
NZ 518420	A	20040227	NZ 2000-518420	20001103
AU 781551	B2	20050526	AU 2001-12871	20001103
RU 2260009	C2	20050910	RU 2002-114696	20001103
AT 318809	E	20060315	AT 2000-974646	20001103
EP 1661564	A1	20060531	EP 2005-77194	20001103
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US 6747024	B1	20040608	US 2002-111994	20020430
NO 2002002088	A	20020502	NO 2002-2088	20020502
US 2004180936	A1	20040916	US 2004-803387	20040316
AU 2005203713	A1	20050915	AU 2005-203713	20050818
PRIORITY APPLN. INFO.:				
			FR 1999-13858	19991105
			FR 2000-6535	20000523
			EP 2000-974646	20001103
			WO 2000-FR3067	20001103
			US 2002-111994	20020430

AB Novel heterocyclic derivs. which have calpain inhibiting and/or reactive oxygen species trapping activity (no data) are reported. Thus, (R)-Trolox was treated with (S)-2-aminobutyrolactone hydrochloride, followed by DIBAL reduction to give (2R)-6-hydroxy-N-[(3S)-2-hydroxytetrahydrofuran-3-yl]-2,5,7,8-tetramethyl-3,4-dihydro-2H-chromene-2-carboxamide.

MSTR 1



G13-G24-NH-G59  
1 3

G1 = H / OH / SH / 7

G2-G3  
7

G2 = O / S

G3 = alkyl <containing 1-6 C>  
(opt. substd. by 1 or more G5) / 9 /  
alkylcarbonyl <containing 1-6 C>  
(opt. substd. by 1 or more G5)

C(O)-G4  
9

G4 = heterocycle <containing 1-5 heteroatoms,  
zero or more O, zero or more S, zero or more N,  
non-aromatic, mono- or bicyclic> (opt. substd.)

G5 = aryl (opt. substd. by 1 or more G6) /  
heteroaryl <containing zero or more O, zero or more N,  
zero or more S> (opt. substd.) / OH /  
alkoxy <containing 1-6 C> / NO2 / CN / halo / NH2 /  
alkylamino <containing 1-6 C> /  
dialkylamino <each alkyl containing 1-6 C> /  
heterocycle <containing 1 or more heteroatoms, 1 or more N,  
attached through 1 or more N> (opt. substd.)

G6 = alkyl <containing 1-6 C> / OH /  
alkoxy <containing 1-6 C> / NO2 / CN / halo / NH2 /  
alkylamino <containing 1-6 C> /  
dialkylamino <each alkyl containing 1-6 C> /  
heterocycle <containing 1 or more heteroatoms, 1 or more N,  
attached through 1 or more N> (opt. substd.)

G7 = 5 / 12

G29-G1 G29=O  
5 12

G8 = H / alkyl <containing 1-6 C>  
(opt. substd. by 1 or more G9) /  
aryl (opt. substd. by 1 or more G12) /  
heteroaryl <containing zero or more O, zero or more N,  
zero or more S> (opt. substd.) /  
(Specifically claimed: CH2Ph)

G9 = aryl (opt. substd. by 1 or more G12) /  
heteroaryl <containing zero or more O, zero or more N,  
zero or more S> (opt. substd.) / OH / NH2 / 16 / halo / CN /  
NO2

G10-G11  
16

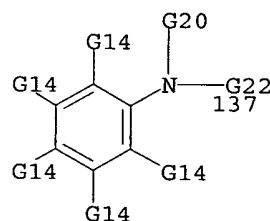
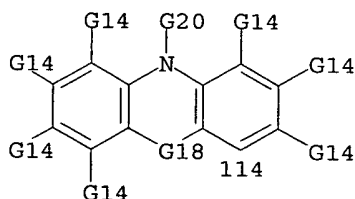
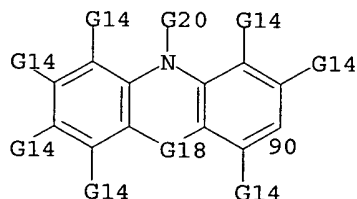
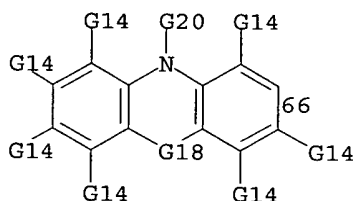
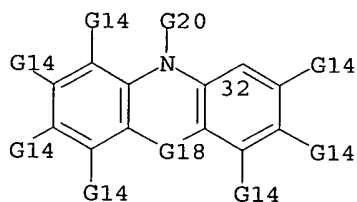
G10 = O / NH / 18

N—G11  
18

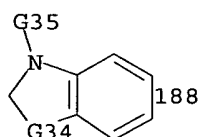
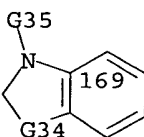
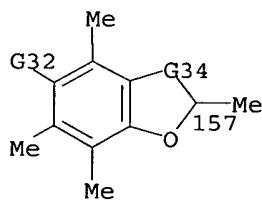
- G11 = alkyl <containing 1-6 C>  
(opt. substd. by 1 or more G43) / aryl (opt. substd.) /  
heteroaryl <containing zero or more O, zero or more N,  
zero or more S> (opt. substd.) /  
alkylcarbonyl <containing 1-6 C>  
(opt. substd. by 1 or more G43) /  
arylcarbonyl (opt. substd.) / heteroarylcarbonyl <containing  
zero or more O, zero or more N, zero or more S>  
(opt. substd.)
- G12 = OH / NH<sub>2</sub> / 20 / halo / CN / NO<sub>2</sub> /  
alkyl <containing 1-6 C>

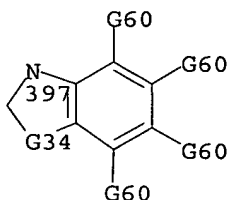
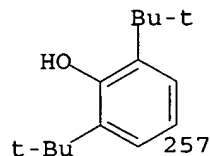
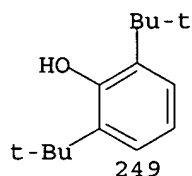
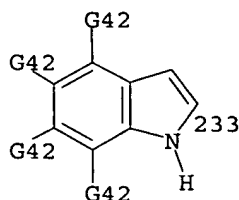
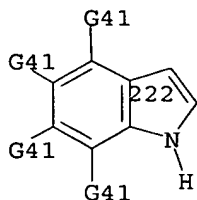
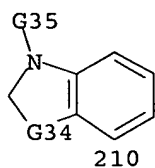
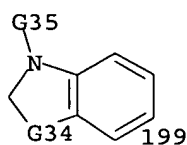
G10—G11  
20

- G13 = 32 / 66 / 90 / 114 / 137 / 148 / 157 / 169 / 188 /  
199 / 210 / 397 / 222 / 233 / (Specifically claimed: 249 /  
257)

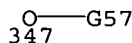
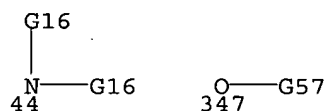


G30—G31  
148

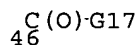




G14 = H / halo / 347 / alkyl <containing 1-6 C> / CN /  
NO2 / 44 / heterocycle <containing 1 or more heteroatoms,  
1 or more N, attached through 1 or more N> (opt. substd.)

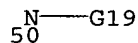


G16 = H / alkyl <containing 1-6 C> / 46



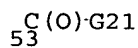
G17 = alkyl <containing 1-6 C> /  
alkoxy <containing 1-6 C> / NH2 /  
alkylamino <containing 1-6 C> /  
dialkylamino <each alkyl containing 1-6 C> /  
heterocycle <containing 1 or more heteroatoms, 1 or more N,  
attached through 1 or more N> (opt. substd.)

G18 = bond / O / S / 50



G19 = H / alkyl <containing 1-6 C>

G20 = H / alkyl <containing 1-6 C> / 53

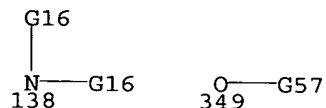


G21 = H / alkyl <containing 1-6 C> (opt. substd.) /  
alkoxy <containing 1-6 C> (opt. substd.) /  
aryl (opt. substd.) / heteroaryl <containing zero or more O,  
zero or more N, zero or more S> (opt. substd.) /  
alkyl <containing 1-6 C> (substd. by 1 or more G43) /

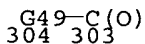
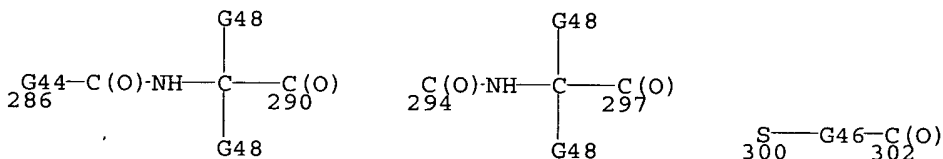
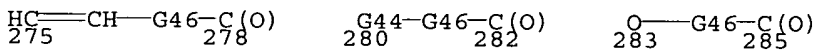
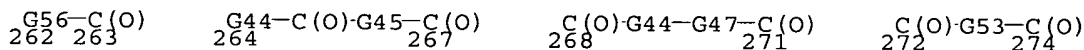
heterocycle <containing 1-5 heteroatoms, zero or more O,  
zero or more S, zero or more N, non-aromatic,  
mono- or bicyclic> (opt. substd.) / NH2 /  
alkylamino <containing 1-6 C> (opt. substd.) /  
dialkylamino <each alkyl containing 1-6 C> (opt. substd.) /  
heterocycle <containing 1 or more heteroatoms, 1 or more N,  
attached through 1 or more N> (opt. substd.)

G22 = phenylene (opt. substd. by (1-2) G23)

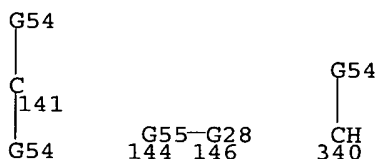
G23 = halo / 349 / alkyl <containing 1-6 C> / CN / NO2 /  
138 / heterocycle <containing 1 or more heteroatoms,  
1 or more N, attached through 1 or more N> (opt. substd.)



G24 = bond / R <"linking group"> / G52 / C(O) /  
262-1 263-3 / 264-1 267-3 / 268-1 271-3 / 272-1 274-3 /  
275-1 278-3 / 280-1 282-3 / 283-1 285-3 / 286-1 290-3 /  
294-1 297-3 / 300-1 302-3 / 304-1 303-3



G25 = G26 / 141 / CH2 / 340 / 144-3 146-11



G26 = (2-6) CH2

G28 = alkylene <containing 1-6 C, unbranched> / C(O)

G29 = heterocycle <containing 1-5 heteroatoms,  
zero or more O, zero or more S, zero or more N,

non-aromatic, mono- or bicyclic> (opt. substd.)  
 G30 = phenylene (opt. substd.)  
 G31 = OH (opt. substd.) / SH (opt. substd.) /  
 NH2 (opt. substd.) / aryl (opt. substd.) /  
 heteroaryl <containing zero or more O, zero or more N,  
 zero or more S> (opt. substd.)  
 G32 = OH / 164

$\text{O}-\text{G33}$   
 164

G33 = alkyl <containing 1-6 C> (opt. substd.) /  
 alkyl <containing 1-6 C> (substd. by 1 or more G43) / 166 /  
 352

$\text{C}(\text{O})-\text{G4}$        $\text{C}(\text{O})-\text{G58}$   
 166                      352

G34 = (1-2) CH2  
 G35 = H / alkyl <containing 1-6 C> / 178

$\text{G36}-\text{G37}$   
 178

G36 = (2-6) CH2  
 G37 = NH2 / 180

$\text{G38}-\text{G39}$   
 180

G38 = NH / 182

$\text{N}-\text{G39}$   
 182

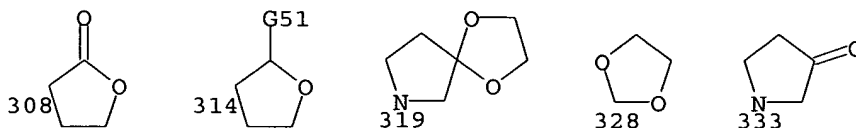
G39 = alkyl <containing 1-6 C> / 184

$\text{C}(\text{O})-\text{G40}$   
 184

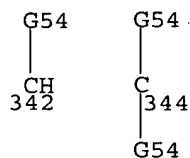
G40 = H / alkyl <containing 1-6 C> /  
 alkoxy <containing 1-6 C> / NH2 /  
 alkylamino <containing 1-6 C> /  
 dialkylamino <each alkyl containing 1-6 C> /  
 heterocycle <containing 1 or more heteroatoms, 1 or more N,  
 attached through 1 or more N> (opt. substd.)  
 G41 = 3 or more H / OH / alkyl <containing 1-6 C> /  
 alkoxy <containing 1-6 C>  
 G42 = 3 or more H / OH / alkyl <containing 1-6 C> /  
 alkoxy <containing 1-6 C>  
 G43 = aryl (opt. substd.) / heteroaryl <containing zero  
 or more O, zero or more N, zero or more S> (opt. substd.)  
 G44 = NH (opt. substd.)  
 G45 = G46 / phenylene (opt. substd.) / CH2 (substd.)

G46 = (0-6) CH<sub>2</sub>  
 G47 = phenylene (opt. substd.)  
 G48 = H / R  
 G49 = heterocycle <containing 1-5 heteroatoms,  
 zero or more O, zero or more S, zero or more N,  
 non-aromatic, mono- or bicyclic> (opt. substd.)  
 G50 = 305 / (Examples: 308 / 314 / 319 / 328 / 333)

G7—G8  
 305

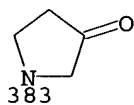
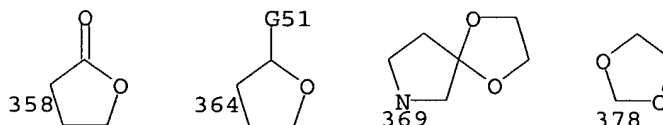


G51 = OH (opt. substd.)  
 G52 = (1-6) CH<sub>2</sub>  
 G53 = phenylene (opt. substd.)  
 G54 = alkyl <containing 1-6 C>  
 (opt. substd. by 1 or more G43)  
 G55 = CH<sub>2</sub> / 342 / 344



G56 = alkylene <containing 1-6 C, unbranched>  
 G57 = H / alkyl <containing 1-6 C>  
 G58 = aryl (opt. substd.) / heteroaryl <containing zero  
 or more O, zero or more N, zero or more S> (opt. substd.) /  
 alkyl <containing 1-6 C> (opt. substd. by 1 or more G43)  
 G59 = 4 / 355 / (Examples: 358 / 364 / 369 / 378 / 383)

G25—G50  
 4 11 G7—G8  
 355



G60 = H / alkyl <containing 1-6 C> / 402

C(O)G40  
 402

Patent location: claim 1  
 Note: substitution is restricted  
 Note: and cyclic acetals

Stereochemistry: or racemates, enantiomers, or diastereomers

L71 ANSWER 83 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 134:207822 MARPAT

TITLE: Preparation of substituted piperidines as modulators of chemokine receptor activity

INVENTOR(S): Thom, Stephen; Baxter, Andrew; Kindon, Nicholas; McInally, Thomas; Springthorpe, Brian; Perry, Matthew; Harden, David; Evans, Richard; Marriott, David

PATENT ASSIGNEE(S): Astrazeneca UK Limited, UK

SOURCE: PCT Int. Appl., 133 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

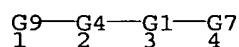
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

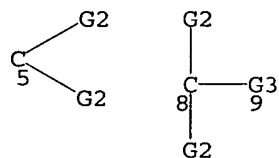
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001014333	A1	20010301	WO 2000-GB3179	20000818
W:			AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW	
RW:			GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG	
EP 1212299	A1	20020612	EP 2000-951768	20000818
R:			AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL	
JP 2003507456	T2	20030225	JP 2001-518423	20000818
US 6903085	B1	20050607	US 2002-69215	20000818
US 2005250792	A1	20051110	US 2005-81201	20050316
PRIORITY APPLN. INFO.:			SE 1999-2987	19990824
			US 2002-69215	20000818
			WO 2000-GB3179	20000818

AB The title compds. [I; Z = CR4R5, CO, CR4R5Z1; Z1 = alkylene, alkenylene, CONH; R1 = (un)substituted alkyl, alkenyl, 3-14 membered (un)saturated ring system which optionally further comprises up to two ring carbon atoms that form carbonyl groups and which optionally further comprises up to 4 ring heteroatoms selected from N, O, and S; m = 0-1; Q = O, S, CO, etc.; n = 0-6 (when n = 0, then m = 0); R2, R3 = H, alkyl; (CR2R3)n = cycloalkyl optionally substituted by alkyl; T = NR10, CONR10, NR11CONR10, etc.; X1-X4 = CH2, CHR12 (wherein R12 = alkyl, cycloalkyl(alkyl), CO, etc.); R4, R5 = H, alkyl; R6 = (un)substituted aryl, heterocyclyl; R10-R11 = H, alkyl, haloalkyl, etc.] and their pharmaceutically acceptable salts, useful in therapy, especially for the treatment of chemokine receptor related diseases (such as inflammatory disease) and conditions, were prepared. E.g., a 3-step synthesis of the piperidine II was given. The exemplified compds. I were found to be antagonists of the eotaxin mediated [Ca2+]i in human eosinophils and/or antagonists of the MIP-1 $\alpha$  mediated [Ca2+]i in human monocytes (no data). Certain compds. I were found to be antagonists of the eotaxin mediated human eosinophil chemotaxis (no data).

MSTR 1

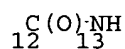


G1 = 5 / C(O) / 8-2 9-4

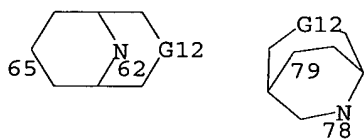
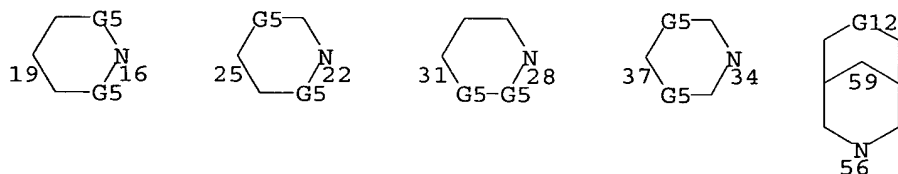


G2 = H / alkyl <containing 1-4 C>

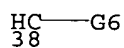
G3 = alkylene <containing 1-4 C> /  
alkenylene <containing 2-4 C> / 12-8 13-4



G4 = 19-1 16-3 / 25-1 22-3 / 31-1 28-3 / 37-1 34-3 /  
59-1 56-3 / 65-1 62-3 / 79-1 78-3



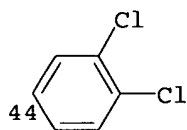
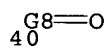
G5 = 38 / C(O)



G6 = H / alkyl <containing 1-4 C>

(opt. substd. by cycloalkyl <containing 3-7 C>)

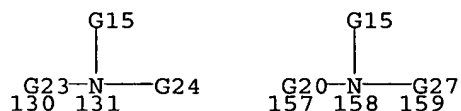
G7 = aryl (opt. substd.) / heterocycle <containing 1 or  
more heteroatoms, zero or more N, zero or more O,  
zero or more S> (opt. substd.) / 40 / (Example: 44)





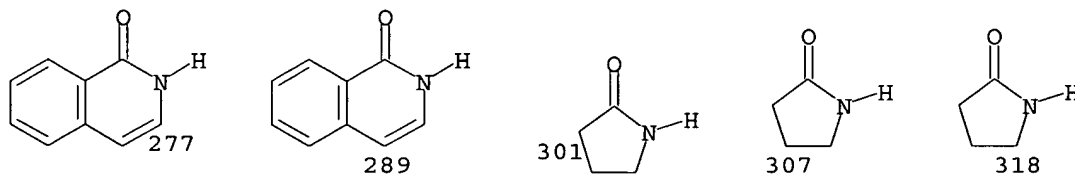
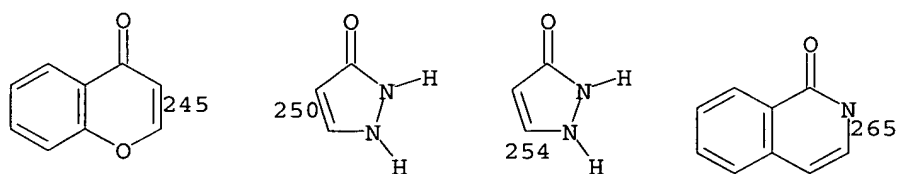
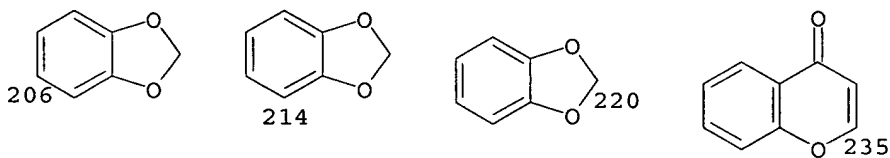
G8 = carbocycle <containing 7 or more C, aromatic,  
6 or more normalized bonds, polycyclic,  
1 or more 6-membered rings> (opt. substd.) /  
heterocycle <containing 1 or more heteroatoms,  
zero or more N, zero or more O, zero or more S>  
(opt. substd.)  
G9 = 50 / 130 / 157

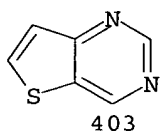
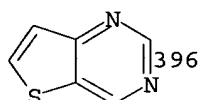
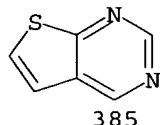
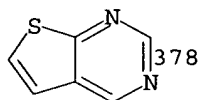
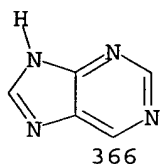
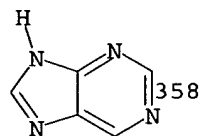
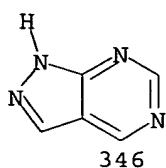
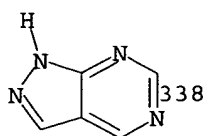
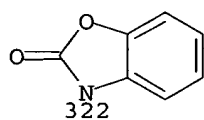
G13-G10  
50 51



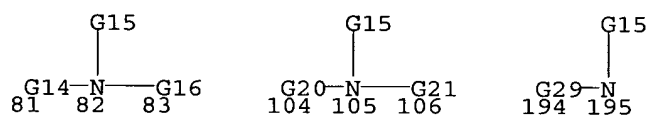
G10 = any ring <containing 3-14 atoms, 0-4 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.) / 52 /  
(Examples: cyclopropyl / cyclobutyl / cyclopentyl /  
cyclohexyl / Ph (opt. substd. by 1 or more G31) / pyrazolyl /  
furyl / thienyl / imidazolyl / quinolinyl / pyridyl / 206 /  
214 / 220 / thiazolyl / benzimidazolyl / oxadiazolyl /  
triazolyl / benzothiazolyl / pyrimidinyl / benzothienyl /  
235 / 245 / 250 / 254 / 265 / 277 / 289 / 301 / 307 / 318 /  
322 / 338 / 346 / 358 / 366 / 378 / 385 / 396 / 403)

G11=O  
52

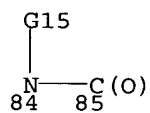




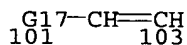
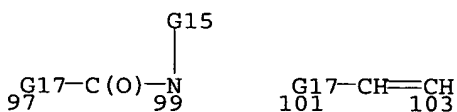
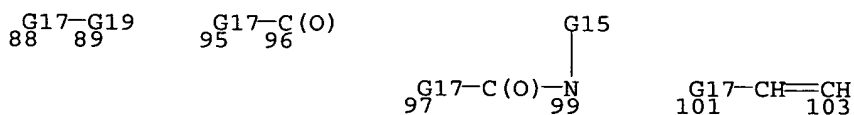
- G11 = any ring <containing 3-14 atoms, 0-4 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms)> (opt. substd.)
- G12 = bond / CH2 / O / S
- G13 = 194-2 195-51 / 81-2 83-51 / 104-2 106-51



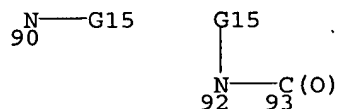
- G14 = bond / 84-2 85-82



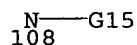
- G15 = H / alkyl <containing 1-6 C>  
(opt. substd. by 1 or more G31) /  
alkyl <containing 1-6 C> (substd. by 1 or more OH) /  
cycloalkyl <containing 3-7 C> /  
alkyl <containing 1-4 C> (substd. by cycloalkyl <containing  
3-7 C>) / alkyl <containing 1-6 C> (substd. by Ph)
- G16 = G18 / alkylene <containing 1 or more C> /  
88-82 89-51 / 95-82 96-51 / 97-82 99-51 / 101-82 103-51



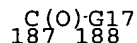
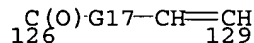
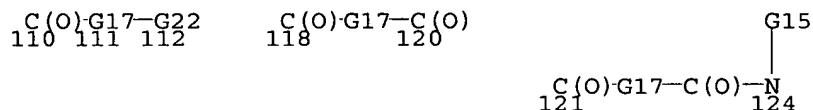
G17 = G18 / alkylene <containing 1 or more C>  
 G18 = (1-6) CH2  
 G19 = O / S / 90 / 92-88 93-51



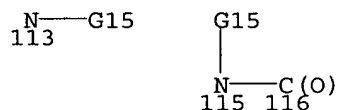
G20 = bond / 108



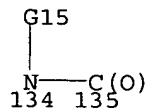
G21 = C(O) / 187-105 188-51 / 110-105 112-51 /  
 118-105 120-51 / 121-105 124-51 / 126-105 129-51



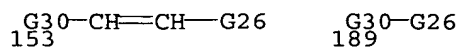
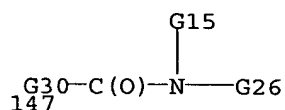
G22 = O / S / 113 / 115-111 116-51



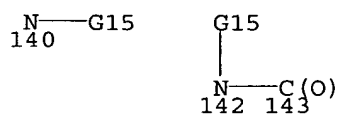
G23 = bond / 134-2 135-131



G24 = alkyl <containing 1-12 C> (opt. substd.) /  
 alkenyl <containing 2-6 C> (opt. substd.) / 189 / 137 / 145 /  
 147 / 153

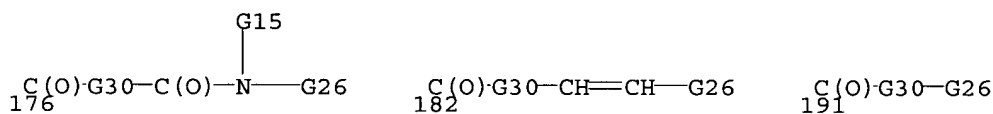
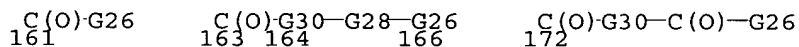


G25 = O / S / 140 / 142-137 143-139

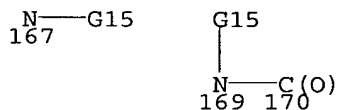


G26 = alkyl <containing 1-12 C> (opt. substd.) /  
alkenyl <containing 2-6 C> (opt. substd.)

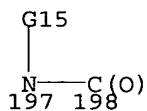
G27 = 161 / 191 / 163 / 172 / 176 / 182



G28 = O / S / 167 / 169-164 170-166



G29 = bond / 197-2 198-195



G30 = alkylene <containing 1 or more C>

G31 = F / Cl / Br / I

Patent location:

claim 1

Note:

additional ring formation also claimed

Note:

or pharmaceutically acceptable salts or solvates

Note:

substitution is restricted

REFERENCE COUNT:

13

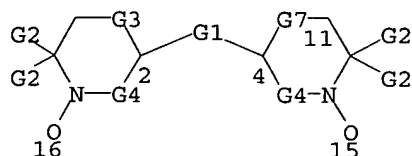
THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 84 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 134:178976 MARPAT  
 TITLE: Dinitroxyl-mediated polymerization, polymers therefrom  
 and their use  
 INVENTOR(S): Christie, David; Haremza, Sylke; Brinkmann-Rengel,  
 Susanne; Raether, Roman Benedikt  
 PATENT ASSIGNEE(S): Basf A.-G., Germany  
 SOURCE: Ger. Offen., 10 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

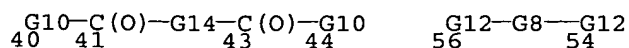
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WO 2001014428	A1	20010301	WO 2000-EP8093	20000818
W: CN, JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 1218419	A1	20020703	EP 2000-962336	20000818
EP 1218419	B1	20050316		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
AT 291037	E	20050415	AT 2000-962336	20000818
PRIORITY APPLN. INFO.:				
			DE 1999-19939328	19990819
			WO 2000-EP8093	20000818

AB The radically initiated polymerization of ethylenically unsatd. monomers is carried out in the presence of dinitroxyl radicals, which provides for living polymerization and the possibility of producing triblock and higher-block copolymers. The dinitroxyl compds. may be in the form of bis(piperidinyloxy) or spirobis(oxazolidinyloxy) compds. In examples, bis(1-oxy-2,2,6,6-tetramethyl-4-piperidinyloxy) esters of dicarboxylic acids were prepared and used in conjunction with Bz2O2 to give triblock copolymers of styrene with Bu acrylate or 2-ethylhexyl acrylate.

# MSTR 2B

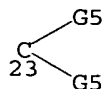


G1 = bond / carbon chain <containing up to 24 C> /  
 R <"bridging group", containing up to 24 atoms> /  
 (Specifically claimed: arylene <containing 6-10 C> /  
 40-2 44-4 / 56-2 54-4 )

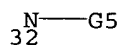


G2 = alkyl <containing 1-8 C> (opt. substd.) /

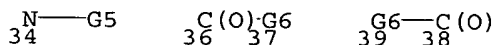
aryl <containing 6-10 C> (opt. substd.) /  
heteroaryl (opt. substd.) / H  
G3 = bond / R <"bridging group">  
G4 = (0-2) 23



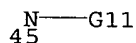
G5 = alkyl <containing 1-8 C> /  
aryl <containing 6-10 C> / heteroaryl / (Example: Me)  
G6 = O / 32



G7 = bond / O / S / 34 / C(O) / 36-4 37-11 /  
39-4 38-11



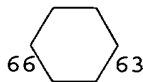
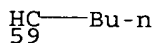
G8 = G9 / cycloalkylene <containing 5-10 C> /  
arylene <containing 6-10 C>  
G9 = (1-18) CH2  
G10 = O / NH / 45



G11 = alkyl <containing 1-22 C>  
G12 = O / 57



G13 = alkyl <containing 1-12 C> / CHO /  
alkylcarbonyl <containing 1-22 C>  
G14 = G9 / cycloalkylene <containing 5-10 C> /  
arylene <containing 6-10 C> / (Examples: 59 / o-C6H4 /  
m-C6H4 / p-C6H4 / 66-41 63-43 )



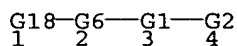
Patent location: claim 4  
Note: oxygens at 15 and 16 are free radicals  
Note: additional ring formation also claimed

L71 ANSWER 85 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 134:29204 MARPAT  
TITLE: Preparation of benzamidines and arylamidines as

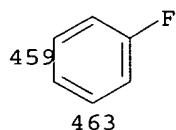
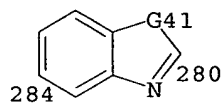
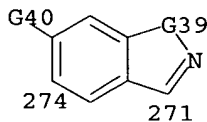
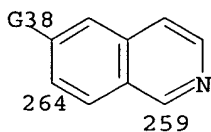
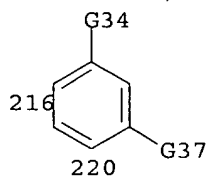
inhibitors of factor Xa  
 INVENTOR(S): Zhu, Bing-Yan; Zhang, Penglie; Scarborough, Robert M.  
 PATENT ASSIGNEE(S): Cor Therapeutics, Inc., USA  
 SOURCE: PCT Int. Appl., 104 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 3  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000071508	A2	20001130	WO 2000-US14208	20000524
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2374650	AA	20001130	CA 2000-2374650	20000524
EP 1185508	A2	20020313	EP 2000-932732	20000524
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2003500383	T2	20030107	JP 2000-619765	20000524
US 6638980	B1	20031028	US 2000-576633	20000524
PRIORITY APPLN. INFO.:			US 1999-135849P	19990524
			WO 2000-US14208	20000524
AB AYDEGJZL [wherein A = (cyclo)alkyl, (un)substituted amino, imino, amidino, guanidino, Ph, naphthyl, heterocyclic ring, etc.; Y = bond, CH2, CO, NR4CH2, CH2NR4, NR4, CONR4, NR4CO, C(:NR4), C(:N4)NR4a, C(:NR4)CH2, C(:NR4)NR4aCH2, SO2, O, SO2NR4, or NR4SO2; R4 and R4a = independently H, alkyl, alkenyl, alkynyl, (alkyl)cycloalkyl, or (un)substituted alkylphenyl or alkylphenyl; D = bond, (un)substituted Ph, naphthyl, or heterocyclic ring; E = NR5CO, NR5CONR6, SO2NR5, NR5SO2NR6, NR5SO2NR6CO; R5 and R6 = H, alkyl, alkenyl, alkynyl, (alkyl)cycloalkyl or (un)substituted alkylphenyl, alkylphenyl, alkylheteroaryl, carboxyalkyl, carbamidoalkyl, etc.; G = (un)substituted methylene, ethylene, or propylene; J = bond, CONR11, NR11CO, NR11, NR11CH2, O, S, SO2, SO, OCH2, or SO2CH2; R11 = H, alkyl, alkenyl, alkynyl, (alkyl)cycloalkyl or (un)substituted alkylphenyl, alkylphenyl, or alkylheteroaryl; Z = (un)substituted Ph, naphthyl, or heterocyclic ring; L = H, CN, CONR12NR13, (CH2)0-2NR12R13, C(:NR12)NR12R13, NR12R13, OR12, NR12C(:NR12)NR12N13, or NR12C(:N12)R13; R12 and R13 = independently H, OH, alkyl, (un)substituted alkoxy, (di)alkylamino, alkylphenyl, alkylphenyl, carboxyalkyl, etc.] were prepared as potent and highly selective inhibitors of factor Xa for the prevention or treatment of coagulation disorders (no data). For example, N-tert-butoxycarbonylglycinol was condensed with 3-cyanophenol in the presence of PPh3 and DEAD in CH2Cl2 (93%), and the amine deprotected and converted to the salt using TFA. Reaction of the TFA amine salt with 2'-(tert-butylaminosulfonyl)-4-biphenylcarboxylic acid in the presence of BOP and i-Pr2NEt in DMF gave the amide (84%). The benzonitrile was converted to the desired benzamidine salt (I•TFA) in 85% yield by bubbling HCl gas through a solution of the amide intermediate in MeOH, followed by neutralization and workup using 0.5% TFA in H2O/MeCN. Compds. of the invention show selectivity for factor Xa vs. other proteases of the coagulation cascade or the fibrinolytic cascade, and are useful as diagnostic reagents as well as antithrombotic agents (no data).				

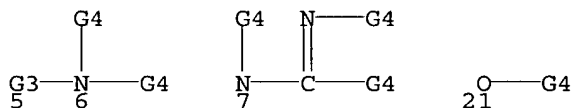
## MSTR 1



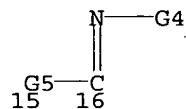
G1 = phenylene (opt. substd.) /  
 carbocycle <containing 10 C, aromatic, bonds all normalized,  
 bicyclic, (2) 6-membered rings> (opt. substd.) /  
 heterocycle <containing 5-10 atoms, 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), mono- or bicyclic>  
 (opt. substd.) / (Specifically claimed: arylene (opt.  
 substd.) / heteroarylene (opt. substd.) / 216-2 220-4 /  
 264-2 259-4 / 274-2 271-4 / 459-2 463-4 / 284-2 280-4 )



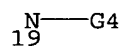
G2 = H / CN / 5 / 21 / 7



G3 = C(O) / bond / CH2 / CH2CH2 /  
 alkylene <containing 3 or more C, unbranched> / 15-3 16-6



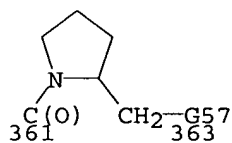
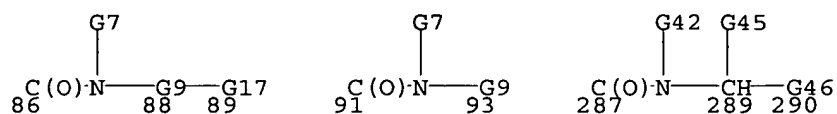
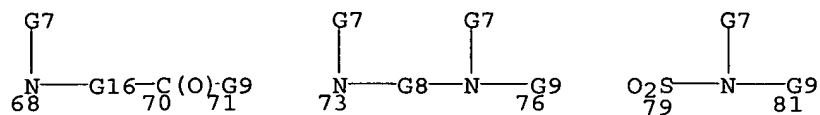
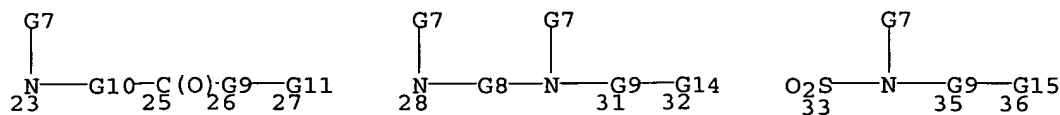
G4 = H / R  
 G5 = bond / 19



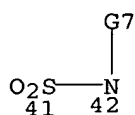
G6 = 68-1 71-3 / 23-1 27-3 / 73-1 76-3 / 28-1 32-3 /  
 79-1 81-3 / 33-1 36-3 / 91-1 93-3 / 86-1 89-3 /



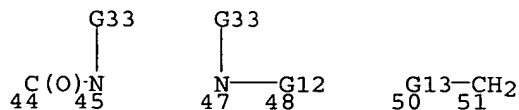
(Specifically claimed: 287-1 290-3 / 361-1 363-3 )



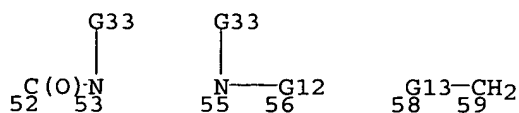
G7 = H / R  
 G8 = C(O) / SO2  
 G9 = (1-3) CH2 (opt. substd.)  
 G10 = bond / 41-23 42-25



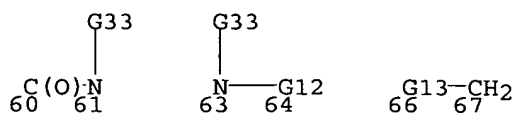
G11 = 44-26 45-3 / 47-26 48-3 / 50-26 51-3 / O / S /  
 SO2 / S(O)



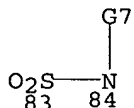
G12 = C(O) / bond / CH2  
 G13 = O / SO2  
 G14 = 52-31 53-3 / 55-31 56-3 / 58-31 59-3 / O / S /  
 SO2 / S(O)



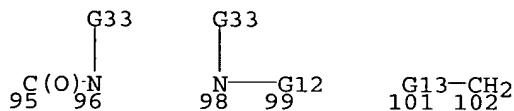
G15 = 60-35 61-3 / 63-35 64-3 / 66-35 67-3 / O / S /  
SO<sub>2</sub> / S(O)



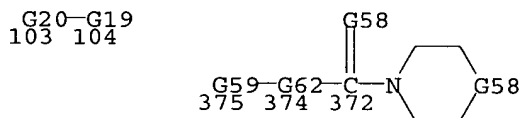
G16 = bond / 83-68 84-70



G17 = 95-88 96-3 / 98-88 99-3 / 101-88 102-3 / O / S /  
SO<sub>2</sub> / S(O)

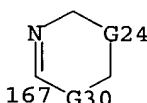
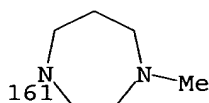
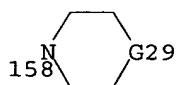
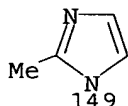
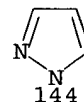
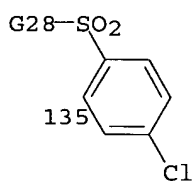
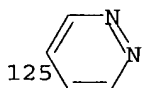
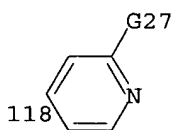


G18 = R / (Specifically claimed: 103 / 375)



G19 = Ph (opt. substd.) / heterocycle <containing 5-10  
atoms, 1-4 heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms), mono- or bicyclic>  
(opt. substd.) / 112 / 118 / 3-pyridyl / 125 / 135 / 144 /  
149 / 158 / 161 / NMe<sub>2</sub> / 167 / NH<sub>2</sub>

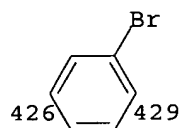
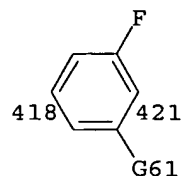
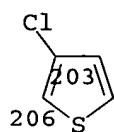
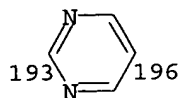
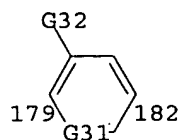
o-C<sub>6</sub>H<sub>4</sub>G25  
112



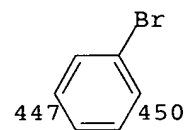
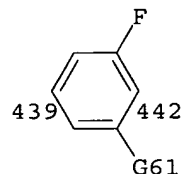
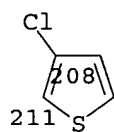
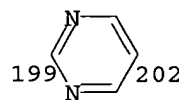
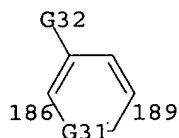
G20 = phenylene (opt. substd.) /  
heterocycle <containing 5-10 atoms, 1-4 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), mono- or bicyclic>

(opt. substd.) / 105-2 106-104 / 179-2 182-104 /  
 193-2 196-104 / 206-2 203-104 / 418-2 421-104 /  
 426-2 429-104 / 436-2 433-104

G21-G22  
 105 106

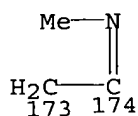
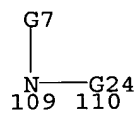


G21 = phenylene (opt. substd.) /  
 heterocycle <containing 5-10 atoms, 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), mono- or bicyclic>  
 (opt. substd.) / 186-2 189-106 / 199-2 202-106 /  
 211-2 208-106 / 439-2 442-106 / 447-2 450-106 /  
 457-2 454-106



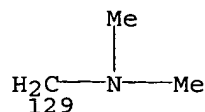
G22 = 107 / 109-105 110-104 / SO2 / O / CH2 /  
 173-105 174-104

C=G23  
 107

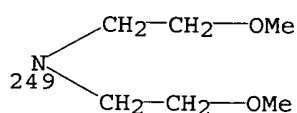
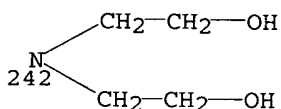
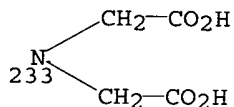
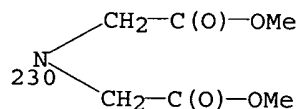
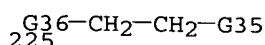
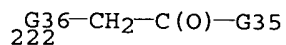


G23 = O / NH / NMe  
 G24 = (0-1) CH2  
 G25 = 114 / CN / CONH2 / CH2NH2 / 129 / NO2

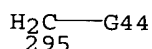
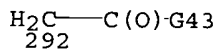
O2S-G26  
 114



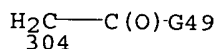
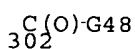
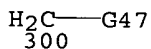
G26 = NH<sub>2</sub> / NHMe / Me  
 G27 = H / CONH<sub>2</sub> / CH<sub>2</sub>NH<sub>2</sub> / NH<sub>2</sub> / OH  
 G28 = NH<sub>2</sub> / Me  
 G29 = bond / NMe / CH<sub>2</sub> / O / SO<sub>2</sub>  
 G30 = CH<sub>2</sub> / O / S / NH / NMe  
 G31 = CH / N  
 G32 = H / Cl / F / Br / Me / OMe / NO<sub>2</sub> / CO<sub>2</sub>H / CN /  
 CONH<sub>2</sub> / CO<sub>2</sub>Me  
 G33 = H / R / (Specifically claimed: Me / Et / SO<sub>2</sub>Me /  
 COMe / Ph / CH<sub>2</sub>Ph)  
 G34 = H / Cl / F / Br / Me / OH / NH<sub>2</sub> / OMe / OCH<sub>2</sub>Ph /  
 NO<sub>2</sub> / CO<sub>2</sub>H / CN / CONH<sub>2</sub> / CO<sub>2</sub>Me / 222 / 230 / 233 / 225 /  
 242 / 249



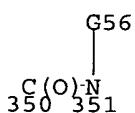
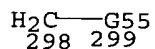
G35 = OH / OMe  
 G36 = O / NH  
 G37 = H / Cl / F / Br / Me / OH / NH<sub>2</sub> / OMe  
 G38 = H / NH<sub>2</sub>  
 G39 = NH / O / S  
 G40 = H / OH / NH<sub>2</sub>  
 G41 = S / NH  
 G42 = H / Et / 292 / 295



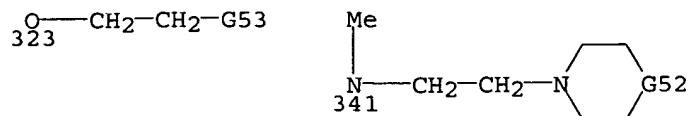
G43 = OMe / OH / NH<sub>2</sub> / NMe<sub>2</sub>  
 G44 = H / aryl (opt. substd.) /  
 heteroaryl (opt. substd.) / cyclohexyl  
 G45 = H / 300 / Et / Ph / 302 / 304 / cyclohexyl



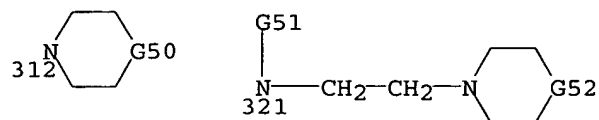
G46 = 298-289 299-3 / 350-289 351-3



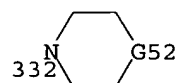
G47 = H / Ph / OMe / 323 / 341



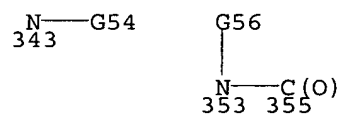
G48 = OH / OMe / NH<sub>2</sub> / NHMe / NMe<sub>2</sub> / 312 / 321



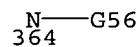
G49 = OH / OMe / NH<sub>2</sub> / NHMe / NMe<sub>2</sub>  
 G50 = bond / CH<sub>2</sub> / O / NH / NMe / S / SO<sub>2</sub>  
 G51 = H / Me  
 G52 = O / NMe / SO<sub>2</sub>  
 G53 = OMe / NMe<sub>2</sub> / 332



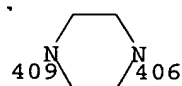
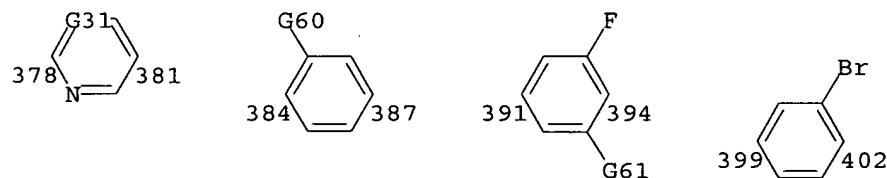
G54 = H / Me / Et / SO<sub>2</sub>Me / COMe / Ph / CH<sub>2</sub>Ph  
 G55 = O / 343 / 353-298 355-3



G56 = H / Me / Et / SO<sub>2</sub>Me / COMe / Ph / CH<sub>2</sub>Ph  
 G57 = O / S / 364

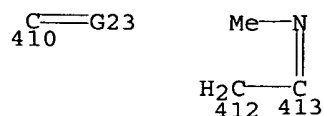


G58 = CH<sub>2</sub> / O / SO<sub>2</sub>  
 G59 = 378-2 381-374 / 384-2 387-374 / 391-2 394-374 /  
 399-2 402-374 / 409-2 406-374



G60 = H / Cl

G61 = H / F  
 G62 = bond / CH2 / 410 / O / 412-375 413-372



Patent location: claim 1  
 Note: and pharmaceutically acceptable salts, hydrates, solvates and prodrug derivatives  
 Note: additional ring formation also claimed  
 Stereochemistry: and pharmaceutically acceptable isomers

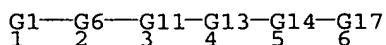
L71 ANSWER 86 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 134:29202 MARPAT  
 TITLE: Preparation of benzamidines and arylamidines as inhibitors of factor Xa  
 INVENTOR(S): Zhu, Bing-Yan; Su, Ting; Zhaozhang, Jon Jia; Scarborough, Robert M.; Song, Yonghong  
 PATENT ASSIGNEE(S): Cor Therapeutics, Inc., USA  
 SOURCE: PCT Int. Appl., 144 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000071493	A2	20001130	WO 2000-US14138	20000524
WO 2000071493	A3	20020117		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2374641	AA	20001130	CA 2000-2374641	20000524
AU 2000051555	A5	20001212	AU 2000-51555	20000524
EP 1196379	A2	20020417	EP 2000-936204	20000524
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
US 6545055	B1	20030408	US 2000-576638	20000524
PRIORITY APPLN. INFO.:			US 1999-135820P	19990524
			WO 2000-US14138	20000524

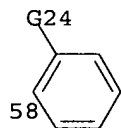
AB AYDEGJZL [wherein A = (cyclo)alkyl and (un)substituted Ph, naphthyl, or heterocyclic ring; Y = bond, CO, NR4, CONR4, NR4CO, SO2, O, SO2NR4, or NR4SO2; R4 = H, alkyl, alkenyl, alkynyl, (alkyl)cycloalkyl, or (un)substituted alkylphenyl or alkyl naphthyl; D = bond or (un)substituted Ph, naphthyl, or heterocyclic ring; E = NR5CO, CONR5, NR5CONR6, SO2NR5, NR5SO2NR6, or NR5SO2NR6CO; R5 and R6 = as defined for R4 or (un)substituted alkylheteroaryl or carboxyalkyl; G = (un)substituted methylene or ethylene; J = bond, CONR11(CH2)0-2, NR11(CH2)0-2CO, or NR11(CH2)0-2; R11 = as defined for R4 or (un)substituted alkylheterocycle;

Z = (un)substituted Ph, naphthyl, or heterocyclic ring; L = H, CN, CONR<sub>12</sub>NR<sub>13</sub>, (CH<sub>2</sub>)<sub>0-2</sub>NR<sub>12</sub>R<sub>13</sub>, C(:NR<sub>12</sub>)NR<sub>12</sub>R<sub>13</sub>, NR<sub>12</sub>R<sub>13</sub>, OR<sub>12</sub>, NR<sub>12</sub>C(:NR<sub>12</sub>)NR<sub>12</sub>N<sub>13</sub>, or NR<sub>12</sub>C(:N<sub>12</sub>)R<sub>13</sub>; R<sub>12</sub> and R<sub>13</sub> = independently H, alkyl, or (un)substituted alkoxy, amino, alkylphenyl, alkyl naphthyl, or carboxyalkyl were prepared as potent and highly selective inhibitors of factor Xa for the prevention or treatment of coagulation disorders (no data). For example, (4-bromophenyl)chlorosulfone was added to N-(2-aminoethyl)carbamic acid tert-Bu ester and TEA in CH<sub>2</sub>Cl<sub>2</sub> to give the sulfonamide (100%). Addition of 2-[[[(tert-butyl)amino]sulfonyl}phenylboronic acid produced the biphenyl intermediate (98%), which was coupled with 3-cyanobenzoic acid in the presence of TEA and BOP in DMF. The benzonitrile was treated with NH<sub>2</sub>OH•HCl and TEA in EtOH, followed by AcOH and Ac<sub>2</sub>O, and then hydrogenated using Pd/C and H<sub>2</sub> to afford I. Compds. of the invention show selectivity for factor Xa vs. other proteases of the coagulation cascade or the fibrinolytic cascade, and are useful as diagnostic reagents as well as antithrombotic agents (no data).

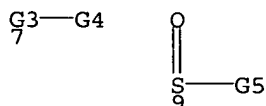
## MSTR 1A



G1 = alkyl <containing 1-6 C> /  
cycloalkyl <containing 3-8 C> /  
Ph (opt. substd. by (1-2) G2) /  
naphthyl (opt. substd. by (1-2) G2) /  
heterocycle <containing 1-4 heteroatoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms),  
mono- or bicyclic> (opt. substd. by (1-2) G2) /  
(Specifically claimed: 58 / 4-pyridyl)

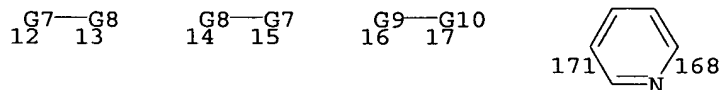


G2 = F / Cl / Br / I / alkyl <containing 1-4 C> /  
alkenyl <containing 2-6 C> / alkynyl <containing 2-6 C> /  
cycloalkyl <containing 3-8 C> /  
alkyl <containing 1-4 C> (substd. by cycloalkyl <containing  
3-8 C>) / CN / NO<sub>2</sub> / 7 / SO<sub>2</sub>NH<sub>2</sub> (opt. substd.) / 9 / CF<sub>3</sub> /  
OH (opt. substd.) / heteroaryl <containing 1-4 heteroatoms,  
zero or more O, zero or more S,  
zero or more N (no other heteroatoms),  
5- or 6-membered rings only> (opt. substd.)



G3 = alkylene <containing 1-2 C, unbranched>  
G4 = NH<sub>2</sub> (opt. substd.)  
G5 = OH (opt. substd.)  
G6 = C(O) / NH (opt. substd.) / 12-1 13-3 / 14-1 15-3

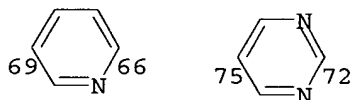
/  
 SO2 / O / 16-1 17-3 / phenylene (opt. substd. by 1 or more  
 G26) / carbocycle <containing 10 C, aromatic,  
 bonds all normalized, bicyclic, (2) 6-membered rings> /  
 heterocycle <containing 1-4 heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 mono- or bicyclic> (opt. substd.) /  
 (Specifically claimed: 171-1 168-3 )



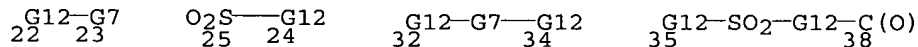
G7 = SO2 / C(O)  
 G8 = NH (opt. substd.)  
 G9 = C(O) / NH (opt. substd.) / 18-1 19-17 /  
 20-1 21-17 / SO2 / O



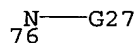
G10 = phenylene (opt. substd. by 1 or more G26) /  
 carbocycle <containing 10 C, aromatic, bonds all normalized,  
 bicyclic, (2) 6-membered rings> /  
 heterocycle <containing 1-4 heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 mono- or bicyclic> (opt. substd.) /  
 (Specifically claimed: 69-16 66-3 / 75-16 72-3 )



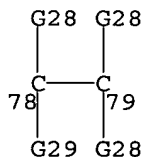
G11 = 22-2 23-4 / 25-2 24-4 / 32-2 34-4 / 35-2 38-4



G12 = NH (opt. substd.) / (Specifically claimed: 76)



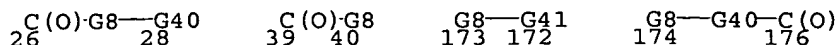
G13 = CH2 (opt. substd.) / 78-3 79-5



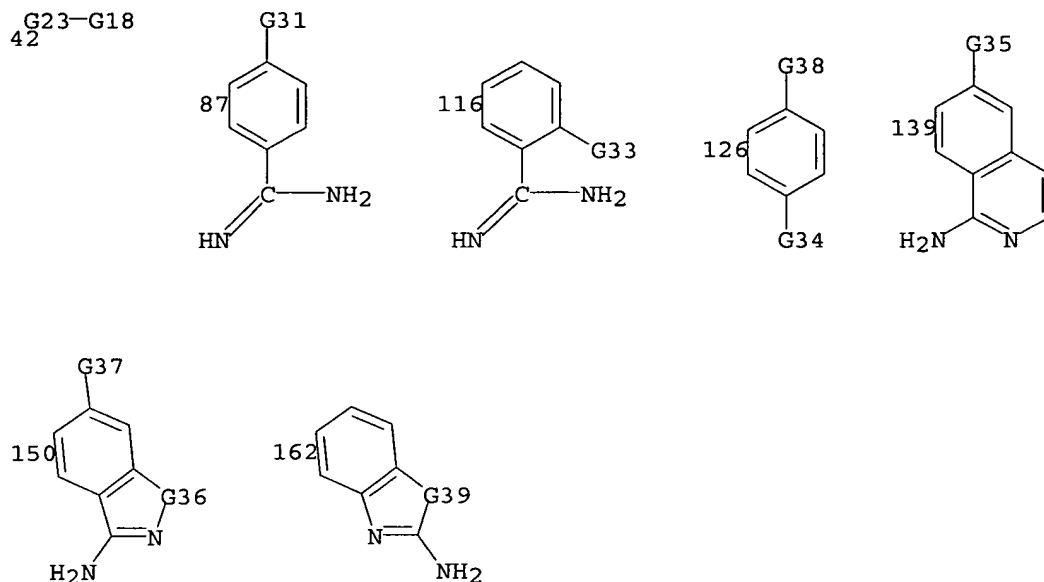
G14 = bond / 39-4 40-6 / 173-4 172-6 / 26-4 28-6 /



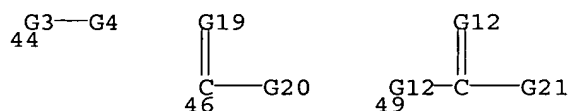
174-4 176-6 / NH (opt. substd.)



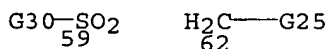
G17 = 42 / (Specifically claimed: 87 / 116 / 126 / 139 / 150 / 162)



G18 = H / CN / NH2 (opt. substd.) / 44 / 46 / OH (opt. substd.) / 49



G19 = O / NH (opt. substd.)  
 G20 = NH2 (opt. substd.)  
 G21 = NH2 (opt. substd.) / H / R  
 G23 = phenylene (opt. substd.) / carbocycle <containing 10 C, aromatic, bonds all normalized, bicyclic, (2) 6-membered rings> / heterocycle <containing 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), mono- or bicyclic> (opt. substd.)  
 G24 = 59 / 62



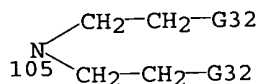
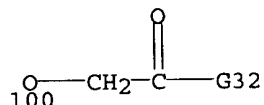
G25 = NH2 / NMe2  
 G26 = R / (Specifically claimed: Cl / F)  
 G27 = Me / Bu-n  
 G28 = H / R

G29 = H / R / (Specifically claimed: NHCOME / NHCOPh)  
 G30 = NHMe / 84 / Me

HN—Bu-t  
 84

G31 = H / OH / F / OMe / 96 / 100 / 105 / 112

O—CH<sub>2</sub>—CH<sub>2</sub>—G32  
 96



HN—CH<sub>2</sub>—CO<sub>2</sub>H  
 112

G32 = OH / OMe  
 G33 = F / OH  
 G34 = CONH<sub>2</sub> / CH<sub>2</sub>NH<sub>2</sub>  
 G35 = H / NH<sub>2</sub>  
 G36 = NH / O / S  
 G37 = H / OH / NH<sub>2</sub>  
 G38 = H / OH  
 G39 = S / NH  
 G40 = (1-2) CH<sub>2</sub>  
 G41 = C(O) / G40

Patent location:

claim 1

Note:

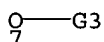
and pharmaceutically acceptable salts

L71 ANSWER 87 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 134:5249 MARPAT  
 TITLE: Stabilized vinyl monomer compositions  
 INVENTOR(S): Sutoris, Heinz Friedrich; Mitulla, Konrad  
 PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Germany  
 SOURCE: PCT Int. Appl., 41 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000069793	A1	20001123	WO 2000-EP3968	20000503
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
DE 19922103	A1	20001123	DE 1999-19922103	19990517
PRIORITY APPLN. INFO.:			DE 1999-19922103	19990517

AB The invention relates to mixts. of substances, containing (A) at least one compound which contains a vinyl group, (B) at least one nitroxyl compound of a secondary amine which does not carry any hydrogen atoms on the  $\alpha$ -carbon atoms, (C) at least one retarding agent, (D) oxygen, (E) optionally at least one compound of a transition metal, and (F) optionally at least one co-stabilizer as a method for inhibiting the premature polymerization of the compd(s). (A) containing vinyl groups. Mixture preparation is characterized in that a mixture of component B, component C, optionally component E, and/or optionally component F is added to A, or these components are added individually, in an atmospheric containing oxygen as component D.

## MSTR 3

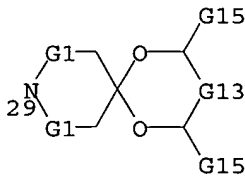
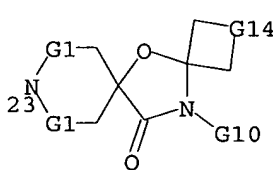
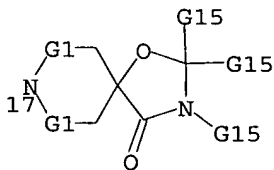
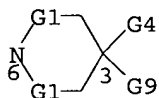


G1 = 9 / cycloalkylene <containing 5-6 C,  
attached through 1 C, 5- to 6-membered monocyclic ring>

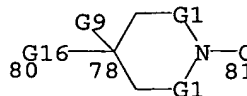
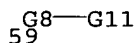
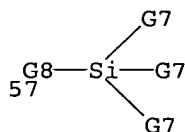
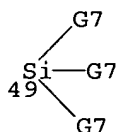


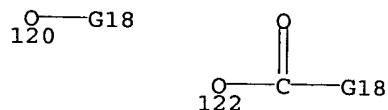
G2 = alkyl <containing 1-4 C> / Ph

G3 = 6 / 17 / 23 / 29

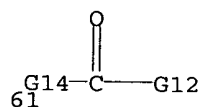


G4 = H / OH / NH<sub>2</sub> / SO<sub>3</sub>H / 47 / PO<sub>3</sub>H<sub>2</sub> / 49 / 57 / 59 /  
(Specifically claimed: 80 / 120 / 122)

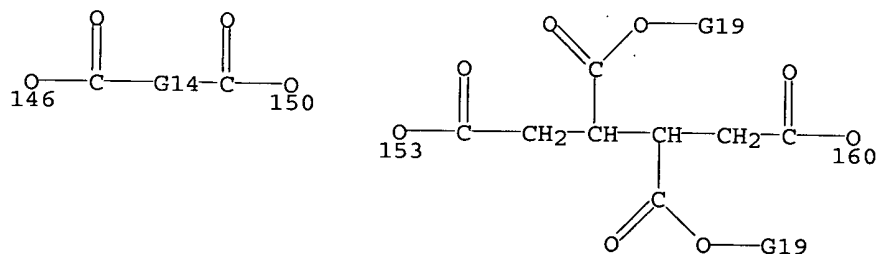
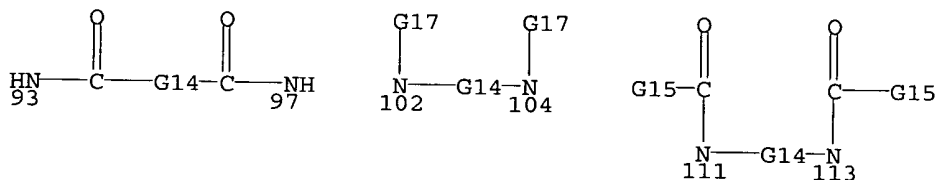
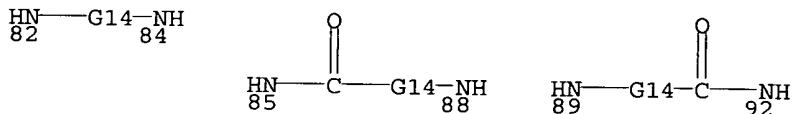


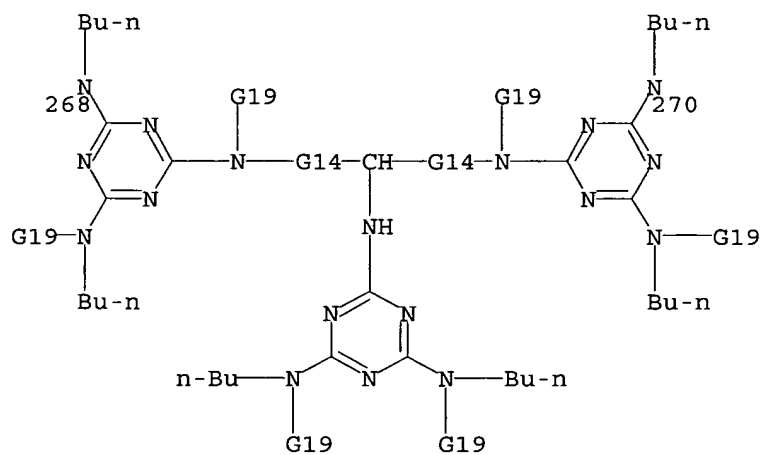
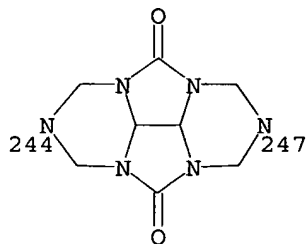
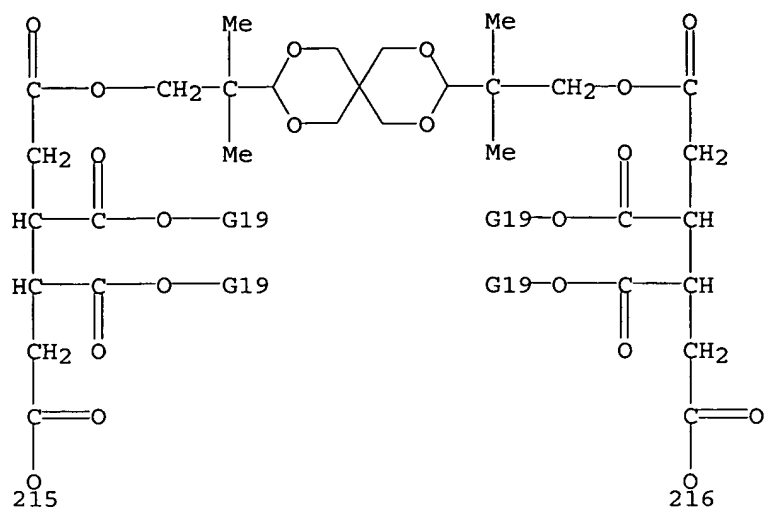


G5 = SO<sub>3</sub>H / PO<sub>3</sub>H<sub>2</sub>  
 G6 = alkali metal atom  
 G7 = R / (Examples: alkyl <containing 1-12 C> / Ph)  
 G8 = O / NH  
 G9 = H / alkyl <containing 1-12 C> /  
       alkoxy <containing 1-12 C>  
 G10 = H / alkyl <containing 1-12 C> / 61

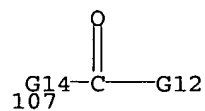


G11 = R <"organic group">  
 G12 = OH / alkoxy <containing 1-18 C>  
 G13 = bond / CH<sub>2</sub>  
 G14 = (1-12) CH<sub>2</sub>  
 G15 = H / alkyl <containing 1-18 C>  
 G16 = 82-3 84-78 / 85-3 88-78 / 89-3 92-78 /  
       93-3 97-78 / 102-3 104-78 / 111-3 113-78 / 146-3 150-78 /  
       153-3 160-78 / 215-3 216-78 / 244-3 247-78 /  
       268-3 270-78

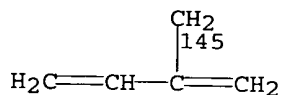
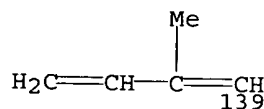
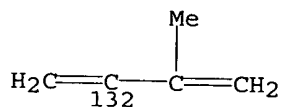
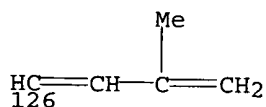




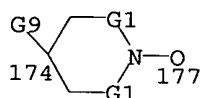
G17 = alkyl <containing 1-12 C> / 107



G18 = alkyl <containing 1-18 C> / CH=CH2 / 126 / 132 / 139 / 145



G19 = 174



Patent location:

claim 4

Note:

oxygen at 7, 81, and 177 is free radical

REFERENCE COUNT:

7

THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 88 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 133:362963 MARPAT

TITLE: Preparation of  $\beta$ -amino acid derivatives that

INVENTOR(S): inhibit the binding of integrins to their receptors  
Biediger, Ronald J.; Chen, Qi; Holland, George W.;  
Kassir, Jamal M.; Li, Wen; Market, Robert V.; Scott,  
Ian L.; Wu, Chengde

PATENT ASSIGNEE(S): Texas Biotechnology Corporation, USA

SOURCE: PCT Int. Appl., 113 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000067746	A1	20001116	WO 2000-US12303	20000505
WO 2000067746	C2	20020829		
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CA 2373360	AA	20001116	CA 2000-2373360	20000505
EP 1176956	A1	20020206	EP 2000-937527	20000505

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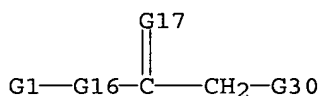
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TR 200201920	T2	20020923	TR 2002-1920	20000505
JP 2002544161	T2	20021224	JP 2000-616772	20000505
NZ 515248	A	20040130	NZ 2000-515248	20000505
RU 2263109	C2	20051027	RU 2001-133360	20000505
ZA 2001008774	A	20030124	ZA 2001-8774	20011024
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PRIORITY APPLN. INFO.:

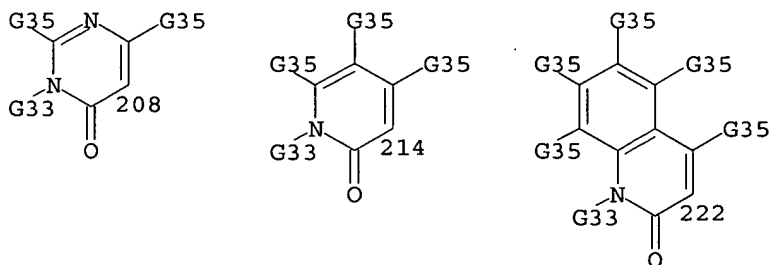
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AU 2000-52679 20000505  
WO 2000-US12303 20000505

AB Title compds. I [Y, at each occurrence, independently = CO, N, CR1, CR2R3, NR5, CH, O, or S; q = 3-10; A = O, S, CR16R17, NR6; E = CH2, O, S, NR7; J = O, S, NR8; M = CR9R10 or (CH2)0-3; T = CO or (CH2)0-3; L = O, NR11, S, (CH2)0-1; X = CO2B, PO3H2, SO3H, SO2NH2, SO2NHCOR12, OPO3H2, CONHCOR13, CONHSO2R14, tetrazolyl, hydroxyl, H; W = C, CR15, N; B, R1-17 = H, halo, hydroxyl, alkyl, alkoxy, aliphatic acyl, CF3, nitro, cycloalkyl, alkylheteroaryl, sulfonyl, carboxyl, etc.] or their pharmaceutically acceptable salts were prepared for inhibition of the binding of  $\alpha 4 \beta 1$  integrin to its receptors. Thus, II was prepared and assayed (IC50 = 0.2  $\mu$ M) for its ability to suppress binding using a 26-amino acid peptide containing the CS-1 sequence of fibronectin with N-terminal cysteine coupled to maleimide activated ovalbumin.

#### MSTR 1C

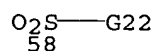


G1 = carbocycle <containing 4 or more C, 0 or more double bonds> (opt. substd.) / heterocycle <containing 4 or more atoms, 0 or more double bonds> (opt. substd.) / (Specifically claimed: 208 / 214 / 222)

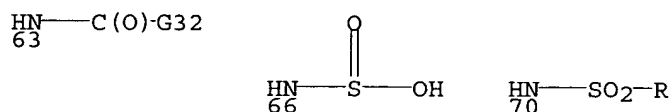


G2 = H / R / aryl <containing 6-12 C> (opt. substd. by G12) / heteroaryl <containing zero or more O, zero or more S, zero or more N> (opt. substd. by G12) / alkyl <containing 1-12 C> (substd. by 1 or more G11) /

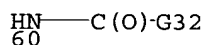
- heterocycle <containing 3-10 atoms, zero or more O,  
zero or more S, zero or more N> (opt. substd. by G12) /  
alkyl <containing 1-12 C> (substd. by G27)
- G11 = aryl <containing 6-12 C> (opt. substd.) /  
heteroaryl <containing zero or more O, zero or more S,  
zero or more N> (opt. substd.)
- G12 = R / alkyl <containing 1-12 C> (opt. substd.)
- G16 = carbon chain <containing 1 or more C,  
0 or more double bonds, 0 or more triple bonds>  
(opt. substd.) / O / S / NH (opt. substd.)
- G17 = O / S / NH (opt. substd.)
- G20 = PO3H2 / 58 / OPO3H2 / tetrazolyl / OH / H



- G21 = OH (opt. substd.) / 63 / 66 / 70



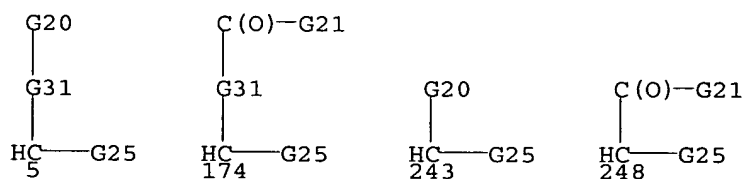
- G22 = OH / NH2 / 60



- G25 = H / R / aryl <containing 6-12 C>  
(opt. substd. by G12) / heteroaryl <containing zero or more  
O, zero or more S, zero or more N> (opt. substd. by G12) /  
alkyl <containing 1-12 C> (substd. by 1 or more G11) /  
heterocycle <containing 3-10 atoms, zero or more O,  
zero or more S, zero or more N> (opt. substd. by G12) /  
alkyl <containing 1-12 C> (substd. by G27) / 73 / 77



- G26 = O / S / NH (opt. substd.)
- G27 = heterocycle <containing 3-10 atoms, zero or more O,  
zero or more S, zero or more N> (opt. substd.)
- G30 = 5 / 174 / 243 / 248



- G31 = carbon chain <containing 1 or more C,  
0 or more double bonds, 0 or more triple bonds>  
(opt. substd.)
- G32 = H / R



G33 = H / R / aryl <containing 6-12 C> (substd. by G34) /  
heteroaryl <containing zero or more O, zero or more S,  
zero or more N> (substd. by G34)  
G34 = 1 or more alkyl <containing 1-12 C> (opt. substd.) /  
R  
G35 = H / R  
Patent location: claim 1  
Note: additional ring formation also claimed  
Note: or pharmaceutically acceptable salts  
Note: substitution is restricted

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

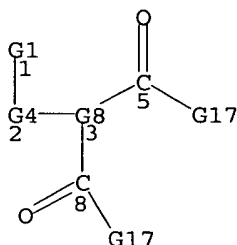
L71 ANSWER 89 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 133:321874 MARPAT  
TITLE: Preparation of malonic acid derivatives useful in the  
treatment and/or prevention of conditions mediated by  
Peroxisome Proliferator-Activated Receptors  
INVENTOR(S): Jeppesen, Lone; Sauerberg, Per; Murray, Anthony; Bury,  
Paul Stanley  
PATENT ASSIGNEE(S): Novo Nordisk A/S, Den.  
SOURCE: PCT Int. Appl., 53 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000063209	A1	20001026	WO 2000-DK191	20000417
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 2000039581	A5	20001102	AU 2000-39581	20000417
EP 1171438	A1	20020116	EP 2000-918726	20000417
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002542246	T2	20021210	JP 2000-612299	20000417
US 2002010171	A1	20020124	US 2001-878670	20010611
US 6534517	B2	20030318		
US 2003171358	A1	20030911	US 2003-351877	20030127
PRIORITY APPLN. INFO.:				
			DK 1999-535	19990420
			US 1999-133100P	19990507
			WO 2000-DK191	20000417
			US 2000-551497	20000418

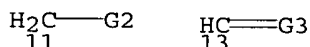
AB The title compds. I [ring A and ring B, fused to the ring containing X and T,  
independently of each other represents a 5-6 membered cyclic ring,  
optionally substituted; T is N or CR14; Y is C, O, S, CO, SO, SO2, NR11; k  
= 1, 2; Ar = arylene, heteroarylene, divalent heterocyclic group; R1 = H,  
OH, halo, alkoxy, etc.; R2 = H, OH, alkyl, alkynyl, etc.; R3 = H, OH,  
alkyl, etc.; R4 = H, alkenyl, aryl, etc.; R5 = H, alkyl, heteroaryl,  
etc.; Z = O, NR12; Q = O, NR13; n = 0-3; m = 0-1; p = 0-1], useful in the

treatment and/or prevention of conditions mediated by nuclear receptors, in particular the Peroxisome Proliferator-Activated Receptors (PPAR), were prepared E.g., 2-[4-(2- $\beta$ -carbolin-9-yl-ethoxy)benzyl]malonic acid hydrochloride was prepared

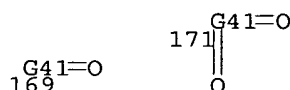
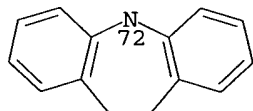
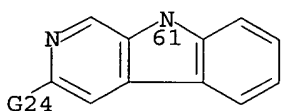
## MSTR 1



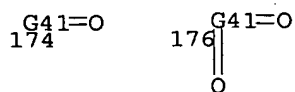
G1 = 11 / 13



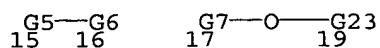
G2 = carbocycle <containing 11-17 C,  
0 or more double bonds, 0 or more triple bonds,  
4 C fusion atoms, tricyclic, (up to 3) 5-membered,  
(up to 3) 6-membered, (up to 1) 7-membered,  
(up to 1) 8-membered, (up to 1) 9-membered rings only>  
(opt. substd. by 1 or more G25) /  
heterocycle <containing 11-17 atoms, 1 or more heteroatoms,  
zero or more N, zero or more O, zero or more S,  
0 or more double bonds, 0 or more triple bonds,  
4 C fusion atoms, tricyclic, (up to 3) 5-membered,  
(up to 3) 6-membered, (up to 1) 7-membered,  
(up to 1) 8-membered, (up to 1) 9-membered rings only>  
(opt. substd. by 1 or more G25) / 169 / 171 /  
(Specifically claimed: 61 / 72)



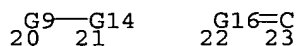
G3 = carbocycle <containing 11-17 C,  
0 or more double bonds, 0 or more triple bonds,  
4 C fusion atoms, tricyclic, (up to 3) 5-membered,  
(up to 3) 6-membered, (up to 1) 7-membered,  
(up to 1) 8-membered, (up to 1) 9-membered rings only>  
(opt. substd. by 1 or more G25) /  
heterocycle <containing 11-17 atoms, 1 or more heteroatoms,  
zero or more N, zero or more O, zero or more S,  
0 or more double bonds, 0 or more triple bonds,  
4 C fusion atoms, tricyclic, (up to 3) 5-membered,  
(up to 3) 6-membered, (up to 1) 7-membered,  
(up to 1) 8-membered, (up to 1) 9-membered rings only>  
(opt. substd. by 1 or more G25) / 174 / 176



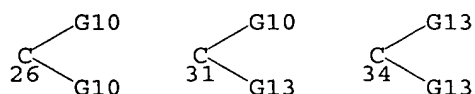
G4 = arylene <mono- or polycyclic>  
 (opt. substd. by 1 or more G39) /  
 heterocycle <containing 1 or more heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), aromatic,  
 2 or more double bonds, mono- or bicyclic,  
 5- or 6-membered rings only> (opt. substd. by 1 or more G39)  
 / 15-1 16-3 / 17-1 19-3



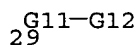
G5 = G7 / O  
 G6 = arylene <mono- or polycyclic>  
 (opt. substd. by 1 or more G39) /  
 heterocycle <containing 1 or more heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), aromatic,  
 2 or more double bonds, mono- or bicyclic,  
 5- or 6-membered rings only> (opt. substd. by 1 or more G39)  
 G7 = (1-3) CH2  
 G8 = 21-8 20-2 21-5 / 23-8 22-2 23-5



G9 = 26 / 31 / 34



G10 = carbon chain <containing 1-12 C,  
 0 or more double bonds, 0 or more triple bonds>  
 (opt. substd.) / 29



G11 = alkylene <containing 1-6 C>  
 G12 = aryl <mono- or polycyclic> (opt. substd.)  
 G13 = H / OH / F / Cl / Br / I /  
 cycloalkyl <containing 3-12 C> (opt. substd.) /  
 alkoxy <containing 1-12 C> (opt. substd.) /  
 cycloalkyloxy <containing 3-12 C> (opt. substd.)  
 G14 = 37 / 39



G15 = carbon chain <containing 1-12 C,  
0 or more double bonds, 0 or more triple bonds>  
(opt. substd.) / 41 / alkylcarbonyl <containing 1-5 C> /  
cycloalkylcarbonyl <containing 3-5 C>

G11-G12  
41

G16 = 43 / 45

C—G10      C—G13  
43            45

G17 = OH / NH<sub>2</sub> / 47 / heterocycle <containing 1 or more  
N, attached through 1 or more N,  
5- to 6-membered monocyclic ring>  
(opt. substd. by 1 or more G22)

G19-G18  
47

G18 = alkyl <containing 1-12 C>  
(opt. substd. by 1 or more G40) /  
cycloalkyl <containing 3-12 C> (opt. substd. by 1 or more  
G40) / carbon chain <containing 4-12 C,  
1 or more double bonds, 1 or more triple bonds>  
(opt. substd. by 1 or more G40) /  
alkenyl <containing 2-12 C> (opt. substd. by 1 or more G40) /  
alkynyl <containing 2-12 C> (opt. substd. by 1 or more G40) /  
aryl <mono- or polycyclic> (opt. substd. by 1 or more G40) /  
**heterocycle <containing 1 or more heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), aromatic,  
2 or more double bonds, mono- or bicyclic,  
5- or 6-membered rings only> (opt. substd. by 1 or more G40)**  
/ 51 / heterocycle <containing 1-4 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), non-aromatic,  
0 or more double bonds, 0 or more triple bonds>  
(opt. substd. by 1 or more G40) / (Specifically claimed: Me)

G11-G21  
51

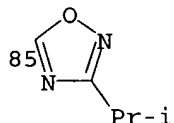
G19 = NH / 49

N—G20  
49

G20 = alkyl <containing 1-12 C> /  
cycloalkyl <containing 3-12 C> / aryl <mono- or polycyclic> /  
alkyl <containing 1-12 C> (substd. by OH) / 53

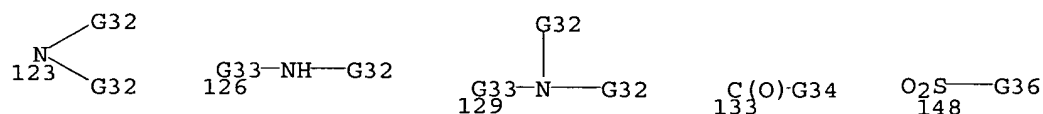
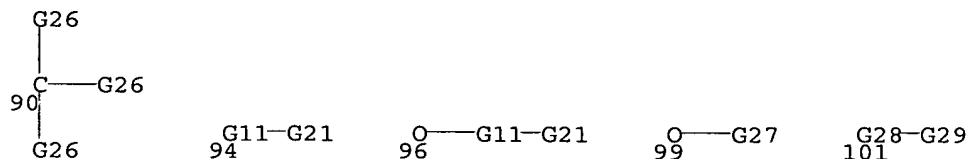
G11-G12  
53

- G21 = aryl <mono- or polycyclic>  
(opt. substd. by 1 or more G40) /  
heterocycle <containing 1 or more heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), aromatic,  
2 or more double bonds, mono- or bicyclic,  
5- or 6-membered rings only> (opt. substd. by 1 or more G40)
- G22 = alkyl <containing 1-6 C> /  
cycloalkyl <containing 3-6 C>
- G23 = arylene <mono- or polycyclic>  
(opt. substd. by 1 or more G39) /  
heterocycle <containing 1 or more heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), aromatic,  
2 or more double bonds, mono- or bicyclic,  
5- or 6-membered rings only> (opt. substd. by 1 or more G39)  
/ (Specifically claimed: p-C6H4)
- G24 = H / 85

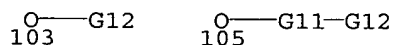


- G25 = F / Cl / Br / I / 90 / OH / NO2 / CN / CHO /  
alkyl <containing 1-12 C> / cycloalkyl <containing 3-12 C> /  
carbon chain <containing 4-12 C, 1 or more double bonds,  
1 or more triple bonds> / alkenyl <containing 2-12 C> /  
alkynyl <containing 2-12 C> / alkoxy <containing 1-12 C> /  
cycloalkyloxy <containing 3-12 C> /  
aryloxy <mono- or polycyclic> (opt. substd.) / 94 / 96 / 99 /  
alkylcarbonyl <containing 1-5 C> /  
cycloalkylcarbonyl <containing 3-5 C> /  
alkylcarbonyloxy <containing 1-5 C> /  
cycloalkylcarbonyloxy <containing 3-5 C> / 101 / NH2 /  
alkylcarbonylamino <containing 1-5 C> /  
cycloalkylcarbonylamino <containing 3-5 C> /  
alkylamino <containing 1-12 C> /  
cycloalkylamino <containing 3-12 C> /  
arylamino <mono- or polycyclic> (opt. substd.) / 108 / 111 /  
alkylthio <containing 1-12 C> /  
cycloalkylthio <containing 3-12 C> / 117 /  
cycloalkyl <containing 6-12 C, bicyclic> / 121 / 123 /  
alkylsulfonyl <containing 1-12 C> /  
cycloalkylsulfonyl <containing 3-12 C> / 126 / 129 /  
arylthio <mono- or polycyclic> (opt. substd.) /  
arylsulfonyl <mono- or polycyclic> (opt. substd.) / 133 /  
148 / aryl <mono- or polycyclic>  
(opt. substd. by 1 or more G37) /  
heterocycle <containing 1 or more heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), aromatic,  
2 or more double bonds, mono- or bicyclic,

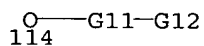
5- or 6-membered rings only> (opt. substd. by 1 or more G38)  
 / heterocycle <containing 1-4 heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 non-aromatic, 0 or more double bonds, 0 or more triple bonds>  
 (opt. substd. by 1 or more G38)



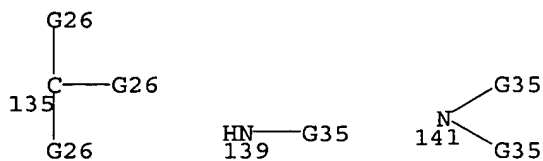
G26 = F / Cl / Br / I  
 G27 = heterocycle <containing 1 or more heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), aromatic,  
 2 or more double bonds, mono- or bicyclic,  
 5- or 6-membered rings only>  
 G28 = alkylene <containing 1-12 C> /  
 cycloalkylene <containing 3-12 C>  
 G29 = OH / NH2 / alkoxy <containing 1-12 C> /  
 cycloalkyloxy <containing 3-12 C> / 103 / 105 / SH /  
 alkylthio <containing 1-12 C> /  
 cycloalkylthio <containing 3-12 C> /  
 arylthio <mono- or polycyclic> (opt. substd.)



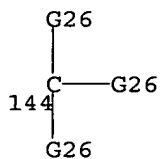
G30 = alkyl <containing 1-12 C> /  
 cycloalkyl <containing 3-12 C> /  
 aryl <mono- or polycyclic> (opt. substd.) / 114



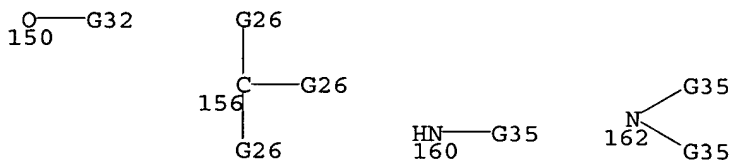
G31 = cycloalkyl <containing 3-6 C>  
 G32 = alkyl <containing 1-6 C> /  
 cycloalkyl <containing 3-6 C>  
 G33 = SO2 / C(O)  
 G34 = OH / F / Cl / Br / I / 135 / NH2 / 139 / 141



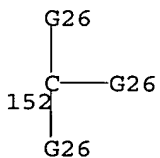
G35 = alkyl <containing 1-6 C> /  
 cycloalkyl <containing 3-6 C> / 144 /  
 aryl <mono- or polycyclic> (opt. substd.)



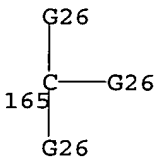
G36 = OH / F / Cl / Br / I / 156 / NH2 / 160 / 162 / 150



G37 = F / Cl / Br / I / 152 / OH / NO2 / CN



G38 = F / Cl / Br / I / NH2 / OH /  
 alkyl <containing 1-6 C> / cycloalkyl <containing 3-6 C> /  
 alkoxy <containing 1-6 C> / cycloalkyloxy <containing 3-6 C>  
 G39 = F / Cl / Br / I / alkyl <containing 1-6 C> /  
 cycloalkyl <containing 3-6 C> / NH2 / OH /  
 alkoxy <containing 1-6 C> / cycloalkyloxy <containing 3-6 C>  
 / aryl <mono- or polycyclic> (opt. substd.)  
 G40 = F / Cl / Br / I / 165 / OH / NO2 / CN



G41 = carbocycle <containing 11-17 C,  
 0 or more double bonds, 0 or more triple bonds,

4 C fusion atoms, tricyclic, (up to 3) 5-membered,  
 (up to 3) 6-membered, (up to 1) 7-membered,  
 (up to 1) 8-membered, (up to 1) 9-membered rings only>  
 (opt. substd.) / heterocycle <containing 11-17 atoms,  
 1 or more heteroatoms, zero or more N, zero or more O,  
 zero or more S, 0 or more double bonds,  
 0 or more triple bonds, 4 C fusion atoms, tricyclic,  
 (up to 3) 5-membered, (up to 3) 6-membered,  
 (up to 1) 7-membered, (up to 1) 8-membered,  
 (up to 1) 9-membered rings only> (opt. substd.)

Patent location: claim 1  
 Note: or pharmaceutically acceptable acid or base salts  
 or tautomeric forms  
 Note: substitution is restricted  
 Stereochemistry: or optical isomers, isomeric mixtures, or racemates

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 90 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 133:252455 MARPAT

TITLE: Preparation of pyridine and pyrimidine derivatives as  
 inhibitors of cytokine mediated disease

INVENTOR(S): Cumming, John Graham

PATENT ASSIGNEE(S): Astrazeneca Ab, Swed.

SOURCE: PCT Int. Appl., 64 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000056738	A1	20000928	WO 2000-GB1006	20000317
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2367866	AA	20000928	CA 2000-2367866	20000317
AU 2000034401	A5	20001009	AU 2000-34401	20000317
AU 757028	B2	20030130		
BR 2000009223	A	20011226	BR 2000-9223	20000317
EP 1165566	A1	20020102	EP 2000-912750	20000317
EP 1165566	B1	20030820		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002540112	T2	20021126	JP 2000-606599	20000317
AT 247661	E	20030915	AT 2000-912750	20000317
NZ 514042	A	20031031	NZ 2000-514042	20000317
PT 1165566	T	20040130	PT 2000-912750	20000317
ES 2204539	T3	20040501	ES 2000-912750	20000317
CN 1660849	A	20050831	CN 2004-10082191	20000317
ZA 2001007501	A	20021211	ZA 2001-7501	20010911
US 6784174	B1	20040831	US 2001-937018	20010920
NO 2001004589	A	20011121	NO 2001-4589	20010921



## PRIORITY APPLN. INFO.:

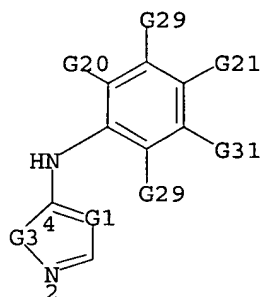
GB 1999-6566 19990323

CN 2000-807798 20000317

WO 2000-GB1006 20000317

AB The title compds. [I; G = N, CH, C(CN); ring X = a 5-6 membered fused heteroaryl ring which contains 1-3 heteroatoms selected from O, S and N; m = 0-2; R1 = OH, halo, CF3, etc.; R2, R3 = H, halo, alkyl, etc.; R4 = H, OH, alkyl, etc.; R5 = H, halo, CF3, etc.; q = 0-4], useful in the treatment of diseases or medical conditions mediated by cytokines, were prepared and formulated. E.g., a multi-step synthesis of thieno[3,2-d]pyrimidine II which showed IC50 of 0.06 against p38 $\alpha$ , was given.

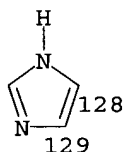
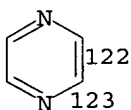
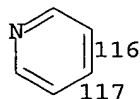
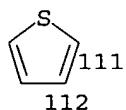
## MSTR 1



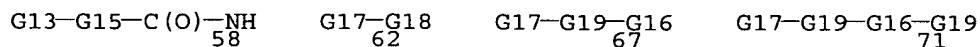
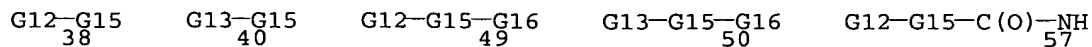
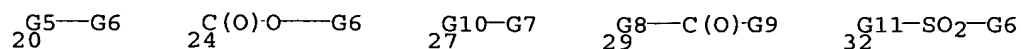
G1 = N / 6

G2 = H / CN

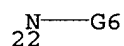
G3 = heteroarylene <containing 1-3 heteroatoms,  
zero or more O, zero or more S,  
zero or more N (no other heteroatoms), monocyclic>  
(opt. substd. by (1-2) G4) / (Specifically claimed: 112-2  
111-4 / 117-2 116-4 / 123-2 122-4 / 129-2 128-4 )



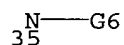
G4 = OH / F / Cl / Br / I / CF3 / CN / SH / NO2 / NH2 /  
CO2H / CHO / alkyl <containing 1-6 C> /  
alkenyl <containing 2-6 C> / alkynyl <containing 2-6 C> /  
20 / 24 / 27 / alkylcarbonyl <containing 1-5 C> / 29 / 32 /  
38 / 40 / 49 / 50 / 57 / 58 / aryl <containing 6-10 C,  
mono- or bicyclic> (opt. substd.) / Ph (opt. substd.) /  
heterocycle <containing 5-14 atoms, 1-5 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms),  
0 or more double bonds, 0 or more triple bonds, 1-3 rings>  
(opt. substd.) / 62 / 67 / 71 / 74 / 80



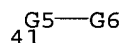
G5 = O / S / S(O) / SO2 / NH / 22



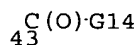
G6 = alkyl <containing 1-6 C>  
 G7 = NH2 / alkylamino <containing 1-6 C> /  
       dialkylamino <each alkyl containing 1-6 C>  
 G8 = O / NH  
 G9 = alkyl <containing 1-5 C>  
 G10 = C(O) / SO2  
 G11 = NH / 35



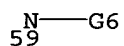
G12 = F / Cl / Br / I / OH / 41



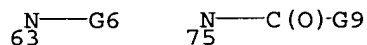
G13 = CN / 43



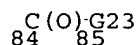
G14 = OH / alkoxy <containing 1-6 C> / NH2 /  
       alkylamino <containing 1-6 C> /  
       dialkylamino <each alkyl containing 1-6 C>  
 G15 = (1-6) CH2  
 G16 = O / NH / 59



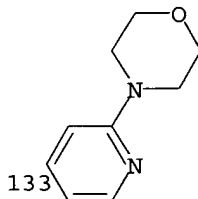
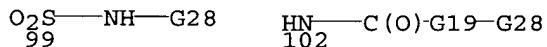
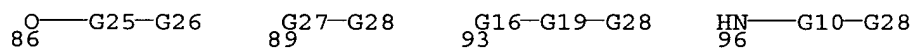
- G17 = aryl <containing 6-10 C, mono- or bicyclic>  
(opt. substd.) / Ph (opt. substd.) /  
heterocycle <containing 5-14 atoms, 1-5 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms),  
0 or more double bonds, 0 or more triple bonds, 1-3 rings>  
(opt. substd.)
- G18 = alkylene <containing 1-6 C> / O / NH / 63 / 75



- G19 = alkylene <containing 1-6 C>
- G20 = H / F / Cl / Br / I / alkyl <containing 1-6 C> /  
alkenyl <containing 2-6 C> / alkynyl <containing 2-6 C> /  
(Specifically claimed: Me)
- G21 = H / F / Cl / Br / I / alkyl <containing 1-6 C> /  
alkenyl <containing 2-6 C> / alkynyl <containing 2-6 C>
- G22 = C(O) / 84-15 85-83



- G23 = (1-4) CH<sub>2</sub>
- G24 = H / OH / alkyl <containing 1-6 C> /  
alkoxy <containing 1-6 C> / NH<sub>2</sub> /  
alkylamino <containing 1-6 C> /  
dialkylamino <each alkyl containing 1-6 C> / 86 /  
cycloalkyl <containing 3-7 C> /  
aryl <containing 6-10 C, mono- or bicyclic> (opt. substd.) /  
Ph (opt. substd.) / heterocycle <containing 5-14 atoms,  
1-5 heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms),  
0 or more double bonds, 0 or more triple bonds, 1-3 rings>  
(opt. substd.) / 89 / 93 / 96 / 99 / 102 /  
(Specifically claimed: 133)



- G25 = alkylene <containing 2-6 C>
- G26 = OH / alkoxy <containing 1-6 C> / NH<sub>2</sub> /  
alkylamino <containing 1-6 C> /  
dialkylamino <each alkyl containing 1-6 C>
- G27 = O / NH / 91

N—G6  
91

G28 = aryl <containing 6-10 C, mono- or bicyclic>  
(opt. substd.) / Ph (opt. substd.) /  
heterocycle <containing 5-14 atoms, 1-5 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms),  
0 or more double bonds, 0 or more triple bonds, 1-3 rings>  
(opt. substd.)  
G29 = (up to 1) G30 / H  
G30 = F / Cl / Br / I / CF3 / CN / NO2 / NH2 / OH /  
alkyl <containing 1-6 C> / alkenyl <containing 2-6 C> /  
alkynyl <containing 2-6 C> / alkoxy <containing 1-6 C> /  
alkylamino <containing 1-6 C> /  
dialkylamino <each alkyl containing 1-6 C>  
G31 = 15 / NH2

G24  
83  
G22  
HN  
15

Patent location: claim 1  
Note: or pharmaceutically acceptable salts or in vivo  
cleavable esters  
Note: substitution is restricted  
Note: additional substitution also claimed  
Note: also incorporates claim 9, formula II

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

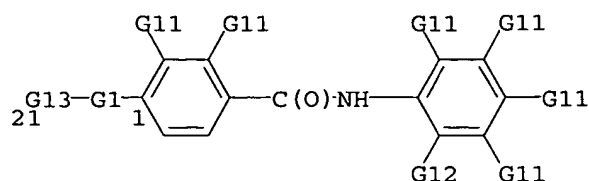
L71 ANSWER 91 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 133:247304 MARPAT  
TITLE: Benzamide analogs as nuclear receptor agonists and  
reinforcement agents for treatment of cell  
proliferation-, hormone-, and vitamin-related diseases  
INVENTOR(S): Suzuki, Tsuneji; Ando, Tomoyuki; Tsuchiya, Katsutoshi;  
Nakanishi, Satoru; Saito, Akiko  
PATENT ASSIGNEE(S): Mitsui Chemical Industry Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000256194	A2	20000919	JP 1999-236850	19990824
PRIORITY APPLN. INFO.:			JP 1999-795	19990106

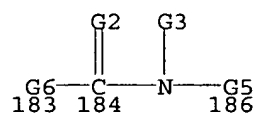
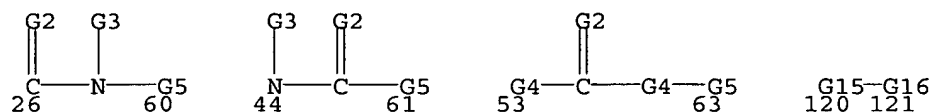
AB Benzamide analogs (I; Markush's structures given) and their pharmacol.  
acceptable salts are claimed as nuclear receptor agonists and  
reinforcement agents for treatment of cell proliferation-, hormone-, and  
vitamin-related diseases, including cancer. I induced leukemia cell  
differentiation and potentiated the antitumor effect of the PPAR receptor

agonist pioglitazone and the retinoid LGD1069.

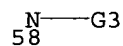
## MSTR 1



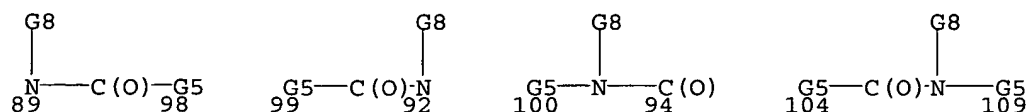
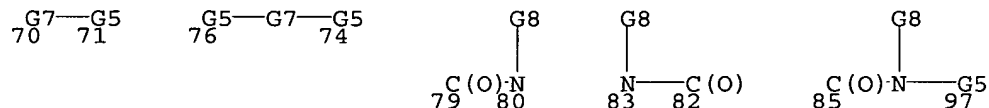
G1 = 26-21 60-1 / 44-21 61-1 / 53-21 63-1 /  
183-21 186-1 / 120-21 121-1

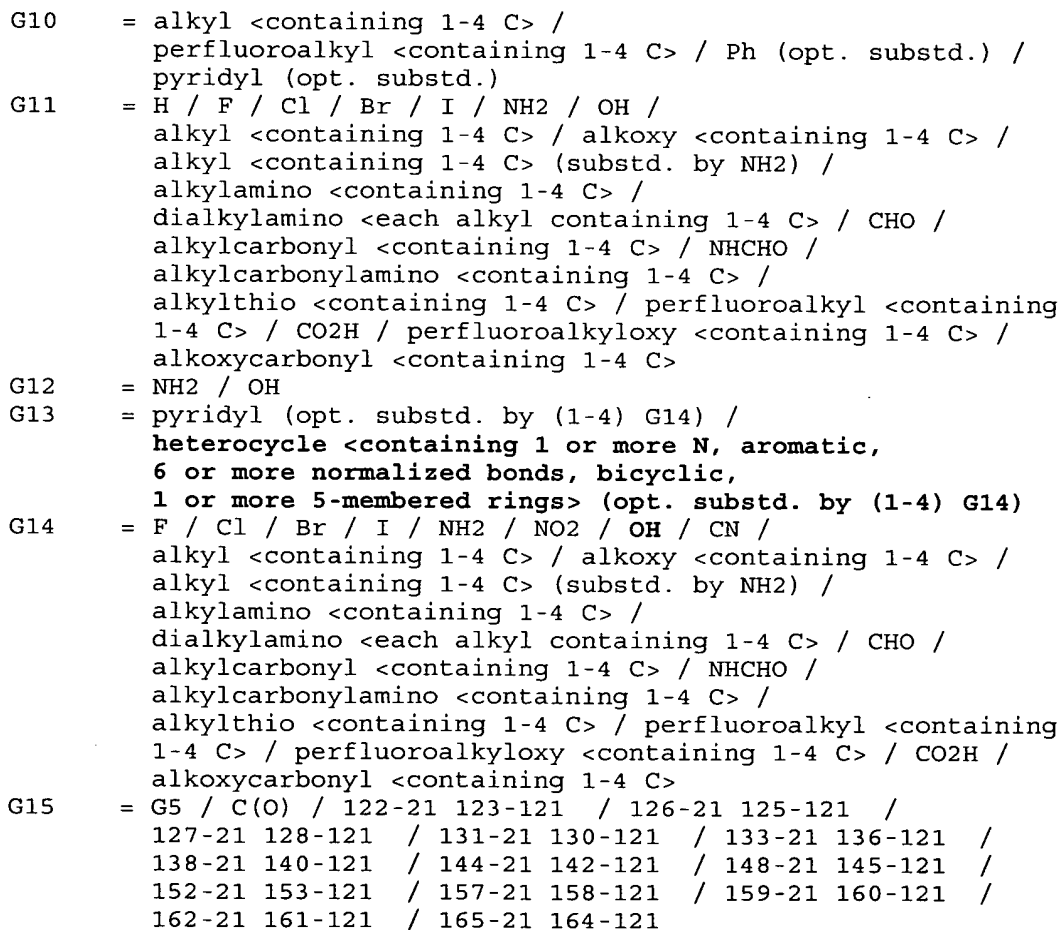
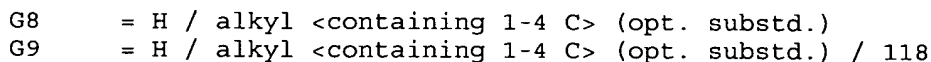
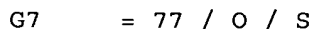


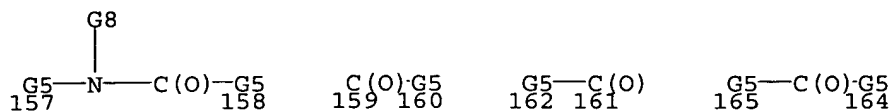
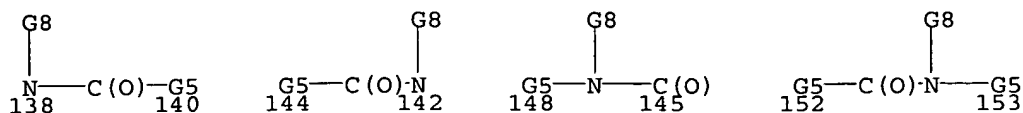
G2 = O / S  
G3 = H / alkyl <containing 1-4 C> (opt. substd.)  
G4 = O / 58



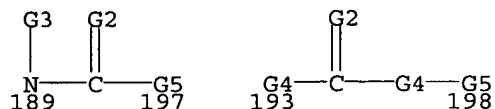
G5 = (1-4) CH2  
G6 = G5 / 70-21 71-184 / 76-21 74-184 / C(O) /  
79-21 80-184 / 83-21 82-184 / 85-21 97-184 /  
89-21 98-184 / 99-21 92-184 / 100-21 94-184 /  
104-21 109-184 / 108-21 110-184 / 111-21 112-184 /  
114-21 113-184 / 117-21 116-184







G16 = 189-120 197-1 / 193-120 198-1



Patent location: claim 1  
 Note: and pharmacologically acceptable salts  
 Note: substitution is restricted

L71 ANSWER 92 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 133:5430 MARPAT

TITLE: Polymerization inhibitors comprising phenylenediamines  
 and nitroxides and stabilized olefin compositions  
 therefrom

INVENTOR(S): Winter, Roland Arthur Edwin

PATENT ASSIGNEE(S): Nalco/Exxon Energy Chemicals, L.P., USA

SOURCE: PCT Int. Appl., 29 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000031005	A1	20000602	WO 1999-EP8676	19991111
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6337426	B1	20020108	US 1998-200368	19981123
CA 2351941	AA	20000602	CA 1999-2351941	19991111
EP 1133460	A1	20010919	EP 1999-957297	19991111
EP 1133460	B1	20050810		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
BR 9915575	A	20011030	BR 1999-15575	19991111
JP 2002530357	T2	20020917	JP 2000-583834	19991111

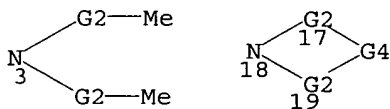
AT 301627 E 20050815 AT 1999-957297 19991111  
 TW 473541 B 20020121 TW 1999-88120347 19991122  
 PRIORITY APPLN. INFO.: US 1998-200368 19981123  
 WO 1999-EP8676 19991111

AB A composition stabilized against premature polymerization comprises (a) a light olefin monomer, and a polymerization inhibiting amount of (b)  $\geq 1$  phenylenediamine R1R2N-p-C6H4NHR3, where R1, R2, and R3 are independently H, C1-20 straight or branched chain alkyl, C1-20 straight or branched chain alkyl substituted by 1-3 aryl groups, C $\leq 12$  aryl optionally substituted with 1-3 C1-6 alkyl; and (c)  $\geq 1$  nitroxide R4R5Z1CNO.CR4R5Z2, where R4 and R5 are independently C1-4 alkyl or are together pentamethylene; and Z1 and Z2 are each Me or together form a linking moiety which optionally contains heteroatoms or carbonyl groups and which addnl. may be substituted by a hydroxy, cyanohydrin, amino, alkoxy, amido, ketal, carboxy, hydantoin, carbamate, or urethane group. The prevention of premature polymerization of reactive light olefins with a phenylendiamine and at least one nitroxide prevents fouling of processing equipment and storage tanks. Isoprene containing 2.7 ppm 4-hydroxy-2,2,6,6-tetramethyl-1-piperidinoxy (I) and 1.3 ppm N,N'-di-sec-butyl-1,4-phenylenediamine held at 212°F for 4 h showed gum content (adapted from ASTM D 381 and D873) 0 insol. and 0 soluble, compared with 3 and 212 mg/100 mL, resp., using 4 ppm each of Irganox 1300 and I.

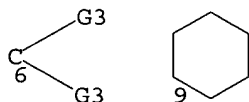
## MSTR 2

O—G1

G1 = 3 / 18



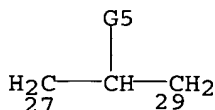
G2 = 6 / 9



G3 = alkyl <containing 1-4 C> /  
 (Specifically claimed: Me / Et)

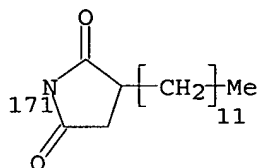
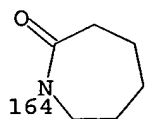
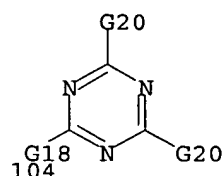
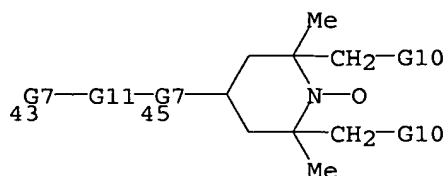
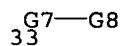
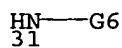
G4 = R <"moiety to complete a ring"> /  
 (Specifically claimed: 27-17 29-19 / 21-17 23-19 /  
 24-17 26-19 )

H<sub>2</sub>C—C(O)—CH<sub>2</sub>    H<sub>2</sub>C—G15—C(O)  
 21        23        24        26

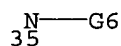
G5 = OH / 33 / H / NH<sub>2</sub> / 31 /



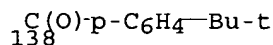
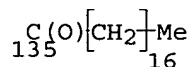
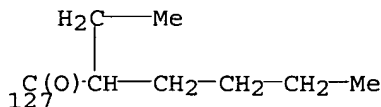
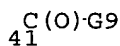
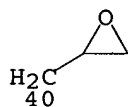
heterocycle <containing 5-12 atoms, 1 or more heteroatoms,  
1 or more N, attached through 1 or more N, non-aromatic,  
saturated> (opt. substd. by (1-6) G24) / 43 / 104 / 164 /  
171



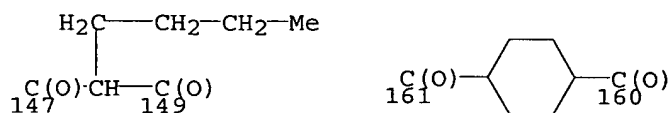
- G6 = alkyl <containing 1-20 C> /  
cycloalkyl <containing 5-12 C> /  
alkyl <containing 1-9 C> (substd. by 1 or more aryl  
<containing 6-14 C>) / alkylcarbonyl <containing 1-17 C> /  
alkenylcarbonyl <containing 2-17 C> / CPh
- G7 = O / NH / 35



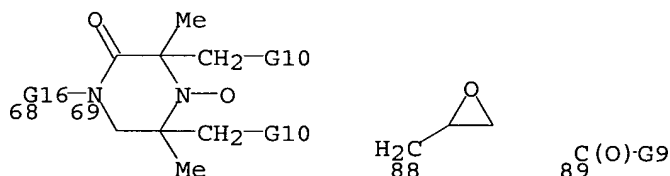
- G8 = alkyl <containing 1-18 C> /  
alkylcarbonyl <containing 1-17 C> / propargyl / 40 / CPh /  
Ph / alkyl <containing 1-50 C> (substd. by (1-10) G22) /  
alkylcarbonyl <containing 1-49 C> (substd. by (1-10) G22) /  
cycloalkyl <containing 5-12 C> (opt. substd. by (1-6) G22) /  
41 / COMe / 127 / 135 / 138



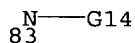
- G9 = cycloalkyl <containing 5-12 C>  
(opt. substd. by (1-6) G22)
- G10 = H / Me
- G11 = alkylene <containing 1-12 C> / 59-43 60-45 /  
64-43 65-45 / 61-43 63-45 / phenylene /  
cycloalkylene <containing 5-12 C>  
(opt. substd. by (1-6) G22) / 124-43 126-45 /  
147-43 149-45 / 161-43 160-45



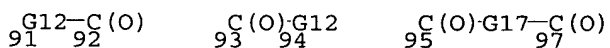
- G12 = alkylene <containing 1-11 C> /  
alkylene <containing 1-50 C> (substd. by (1-10) G22) /  
cycloalkylene <containing 5-12 C>  
(opt. substd. by (1-6) G22)
- G13 = bond / alkylene <containing 1-10 C> / phenylene /  
alkylene <containing 1-48 C> (substd. by (1-10) G22) /  
cycloalkylene <containing 5-12 C>  
(opt. substd. by (1-6) G22)
- G14 = H / alkyl <containing 1-18 C> /  
alkylcarbonyl <containing 1-17 C> / propargyl / 88 / CPh /  
Ph / alkyl <containing 1-50 C> (substd. by (1-10) G22) /  
alkylcarbonyl <containing 1-49 C> (substd. by (1-10) G22) /  
cycloalkyl <containing 5-12 C> (opt. substd. by (1-6) G22) /  
89 / 68



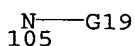
G15 = 83 / 0



G16 = alkylene <containing 1-12 C> / 91-83 92-69 /  
93-83 94-69 / 95-83 97-69 / phenylene /  
cycloalkylene <containing 5-12 C> / CH<sub>2</sub>CH<sub>2</sub>



- G17 = bond / alkylene <containing 1-10 C> / phenylene /  
alkylene <containing 1-48 C> (substd. by (1-10) G22) /  
cycloalkylene <containing 5-12 C>  
(opt. substd. by (1-6) G22)
- G18 = NH / 105

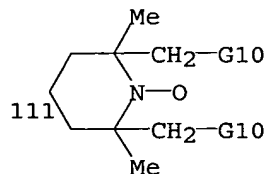


G19 = alkyl <containing 1-20 C> /  
cycloalkyl <containing 5-12 C> / Bu-n

G20 = NH<sub>2</sub> / 109

~~G18-G21~~  
109

G21 = alkyl <containing 1-20 C> /  
cycloalkyl <containing 5-12 C> / 111



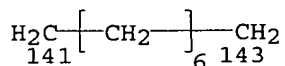
G22 = OH / 179

~~C(O)-G23~~  
179

G23 = OH / alkoxy <containing 1-4 C> / OPh  
G24 = alkyl <containing 1-20 C> /  
alkenyl <containing 2-20 C> / OH / 181

~~C(O)-G23~~  
181

G25 = 141-124 143-126 / CH<sub>2</sub>CH<sub>2</sub> / CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>



Patent location: claim 1  
Note: oxygens at 1, 52, 75 and 117 are free radicals  
Note: interruptions also claimed  
Note: substitution is restricted

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 93 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 132:334449 MARPAT  
TITLE: Preparation of N-[4-(5-oxazolyl)phenyl] amides as  
novel inhibitors of IMPDH enzyme  
INVENTOR(S): Gu, Henry H.; Dhar, T. G. Murali; Iwanowicz, Edwin  
PATENT ASSIGNEE(S): Bristol-Myers Squibb Company, USA  
SOURCE: PCT Int. Appl., 99 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

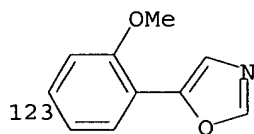
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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 DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP,  
 KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN,  
 MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM,  
 TR, TT, UA, UG, UZ, VN, YU, ZA, ZW  
 RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE,  
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 CA 2348267 AA 20000511 CA 1999-2348267 19991022  
 EP 1127054 A1 20010829 EP 1999-960145 19991022  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
 IE, SI, LT, LV, FI, RO  
 JP 2002528533 T2 20020903 JP 2000-579586 19991022  
 US 6624184 B1 20030923 US 1999-427953 19991027  
 US 2004082562 A1 20040429 US 2003-465425 20030619  
 US 7053111 B2 20060530  
 US 2006122245 A1 20060608 US 2003-465427 20030619  
 US 2004102497 A1 20040527 US 2003-717287 20031119  
 US 7060720 B2 20060613  
 PRIORITY APPLN. INFO.: US 1998-106180P 19981029  
 WO 1999-US24889 19991022  
 US 1999-427953 19991027  
 AB The title compds. ZJKLX [I; Z = (un)substituted monocyclic or bicyclic  
 ring system containing up to 4 heteroatoms selected from N, O, and S; J = NR7,  
 CO; K = NR7, CO, CHR9; L = a single bond, CO, CR10R11, etc.; X = alkyl,  
 alkenyl, cycloalkylalkyl, etc.; R7 = H, alkyl, alkenyl, etc.; R9 = H,  
 alkyl, alkenyl, etc.; R10, R11 = H, F, Cl, etc.], useful in treating or  
 preventing IMPDH associated disorders, such as transplant rejection and  
 autoimmune disease, were prepared. E.g., a multi-step synthesis of  
 gycinamide II was given. Compds. I are effective at 0.1-500 mg/kg/day.

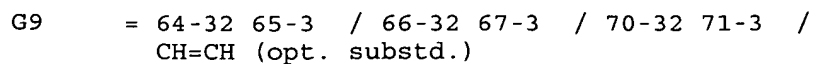
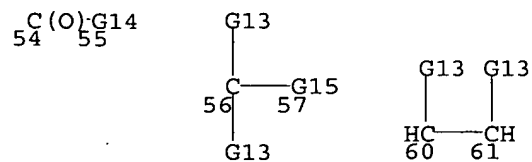
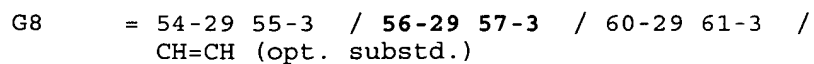
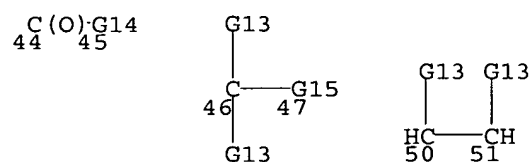
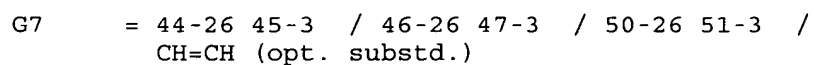
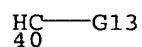
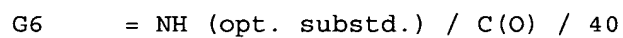
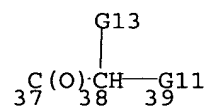
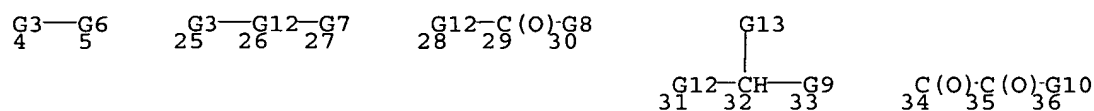
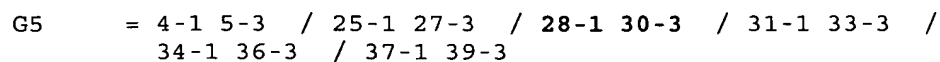
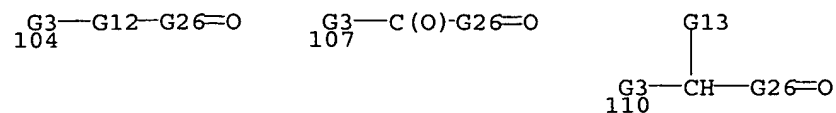
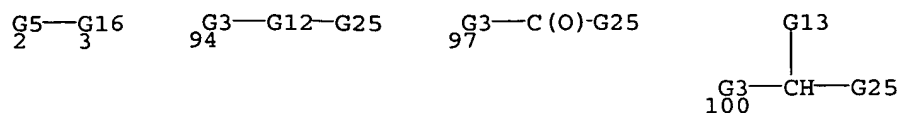
## MSTR 1

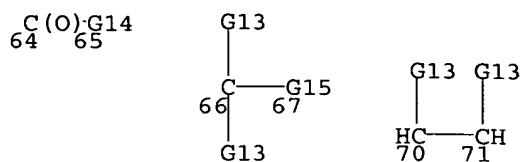
G1—G4  
1

G1 = any ring <containing 0-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), mono- or bicyclic>  
 (opt. substd.) / 6 / (Example: 123)

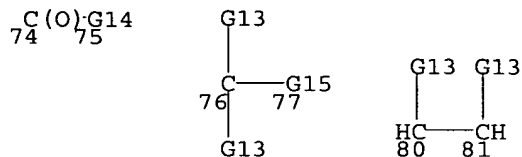
G2=O  
6

G2 = any ring <containing 0-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), mono- or bicyclic>  
 (opt. substd.)  
 G3 = NH (opt. substd.) / C(O)  
 G4 = 2 / 94 / 97 / 100 / 104 / 107 / 110

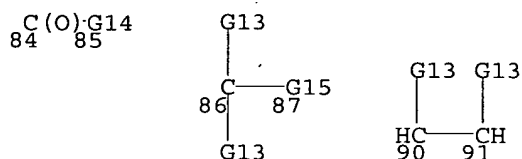




G10 = 74-35 75-3 / 76-35 77-3 / 80-35 81-3 /  
CH=CH (opt. substd.)

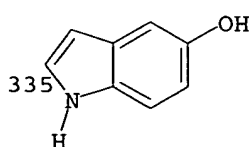
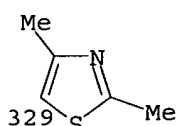
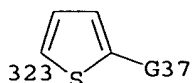
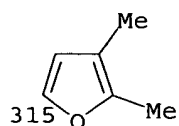
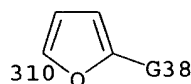
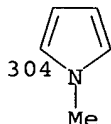
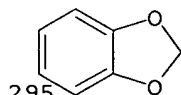
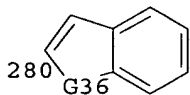


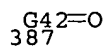
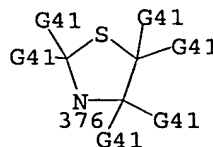
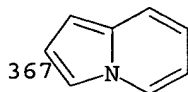
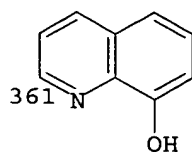
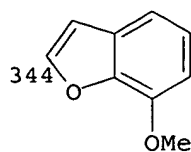
G11 = 84-38 85-3 / 86-38 87-3 / 90-38 91-3 /  
CH=CH (opt. substd.)



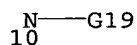
G12 = NH (opt. substd.)  
 G13 = H / R / (Example: F)  
 G14 = bond / CH2 (opt. substd.)  
 G15 = bond / C(O)  
 G16 = OH / NH2 / 8 / aziridino (opt. substd.) /  
 azetidino (opt. substd.) / piperidino (opt. substd.) /  
 morpholino (opt. substd.) / pyrrolidino (opt. substd.) /  
 thiomorpholino (opt. substd.) / 376 /  
 piperazino (opt. substd.) / 387 /  
 cycloalkyl <containing 3-10 C> /  
 aryl <containing 6-10 C> (opt. substd.) /  
 heterocycle (opt. substd.) / (Examples: Ph (opt. substd.) /  
 280 / 295 / 304 / 310 / 315 / 323 / 329 / 335 / 344 / 361 /  
 3-pyridyl / 4-pyridyl / 1-naphthyl / 367)

G17-G18  
8

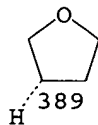
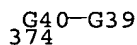
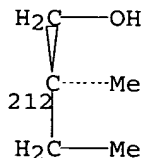
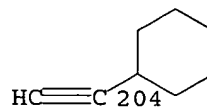
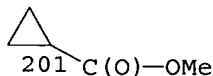
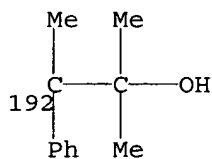
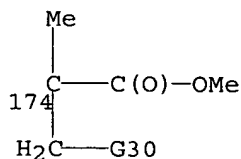
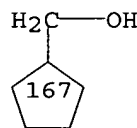
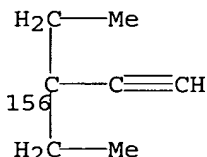
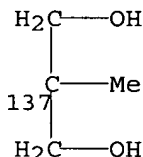
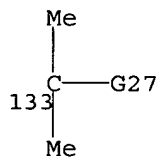




G17 = O / NH / 10

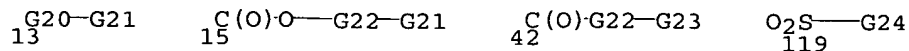


G18 = alkyl <containing 1-8 C> /  
alkenyl <containing 3-6 C> / cycloalkyl <containing 3-10 C> /  
374 / aryl <mono- or bicyclic> (opt. substd.) /  
heterocycle <containing 5-10 atoms, mono- or bicyclic>  
(opt. substd.) / carbon chain <containing 1 or more C>  
(opt. substd.) / any ring <containing 3-7 atoms,  
1 or more C, attached through 1 or more C, non-aromatic,  
up to 7-membered monocyclic ring> (opt. substd.) /  
(Examples: Ph (opt. substd.) / Et / CH<sub>2</sub>Ph / 133 / 137 / 156 /  
167 / 174 / 192 / 201 / 204 / 212 / 389)

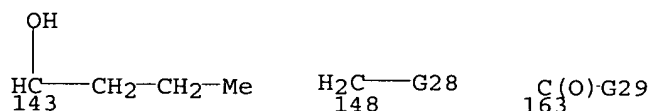


G19 = alkyl <containing 1-8 C> /  
alkenyl <containing 3-6 C> / cycloalkyl <containing 3-10 C> /  
13 / alkylcarbonyl <containing 1-6 C> /

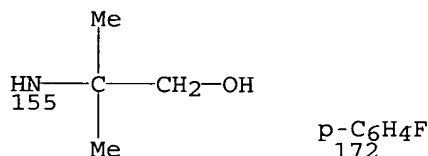
alkylsulfonyl <containing 1-6 C> /  
 cycloalkylcarbonyl <containing 3-7 C> /  
 alkoxycarbonyl <containing 1-6 C> /  
 cycloalkyloxycarbonyl <containing 3-7 C> / 15 / 42 /  
 aryl (opt. substd.) / heterocycle (opt. substd.) / 119



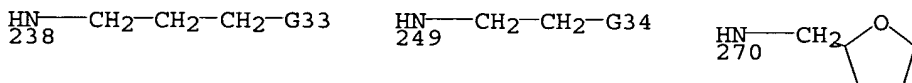
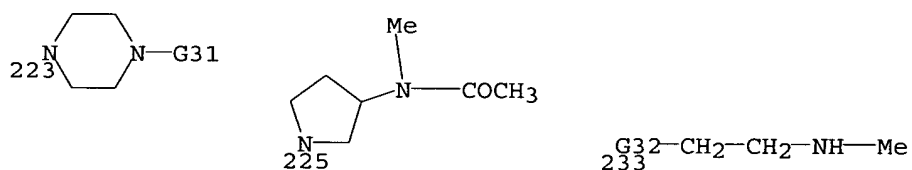
G20 = alkylene <containing 1-4 C>  
 G21 = cycloalkyl <containing 3-10 C> /  
       aryl (opt. substd.) / heterocycle (opt. substd.)  
 G22 = alkylene <containing 1-5 C>  
 G23 = cycloalkyl <containing 3-7 C>  
 G24 = aryl (opt. substd.) / heterocycle (opt. substd.)  
 G25 = carbon chain <containing 1 or more C,  
       no triple bonds> (opt. substd.)  
 G26 = carbon chain <containing 2 or more C,  
       no triple bonds> (opt. substd.)  
 G27 = 148 / 163 / 143 / CH<sub>2</sub>CMe<sub>3</sub> / Pr-n / CH<sub>2</sub>COMe / Ph



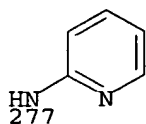
G28 = H / OH / 155 / NMe<sub>2</sub> / 172



G29 = OBU-t / OMe / OH / piperidino / 223 / morpholino /  
 225 / 233 / 238 / 249 / 270 / NMe<sub>2</sub> / 277

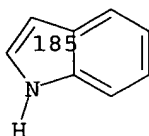






G30 = 179 / 185

p-C<sub>6</sub>H<sub>4</sub>-OH  
179

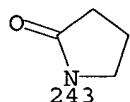


G31 = Me / CO<sub>2</sub>Et / 298

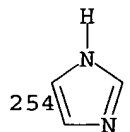
H<sub>2</sub>C-CH<sub>2</sub>-OMe  
298

G32 = NMe / NH

G33 = H / 243



G34 = morpholino / 254 / NHCOMe / 261 / 4-pyridyl / OMe



G35 = H / Me

G36 = 287 / O / S

N-G35  
287

G37 = Me / 2-pyridyl / H

G38 = Bu-t / H

G39 = cycloalkyl <containing 3-10 C> /  
aryl <mono- or bicyclic> (opt. substd.) /  
heterocycle <containing 5-10 atoms, mono- or bicyclic>  
(opt. substd.)

G40 = alkylene <containing 1-4 C>

G41 = H / R

G42 = heterocycle <containing 1-2 heteroatoms,  
1 or more N, up to 1 O, up to 1 S (no other heteroatoms),  
attached through 1 or more N, non-aromatic, saturated,  
up to 6-membered monocyclic ring> (opt. substd.)

Derivative: or pharmaceutically acceptable salts  
 Patent location: claim 1  
 Note: additional ring formation also claimed  
 Note: substitution is restricted

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 94 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 132:208133 MARPAT

TITLE: Preparation of peptidyl formamide compounds as  
 therapeutic agents

INVENTOR(S): Andrews, Robert Carl; Andersen, Marc Werner; Stanford,  
 Jennifer Badiang; Babacz, Dulce Garrido; Chan, Joseph  
 Howing; Cowan, David John; Gaul, Michael David;  
 Mcdougald, Darryl Lynn; Musso, David Lee; Rabinowitz,  
 Michael Howard; Wiethe, Robert William

PATENT ASSIGNEE(S): Glaxo Group Limited, UK; et al.

SOURCE: PCT Int. Appl., 115 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

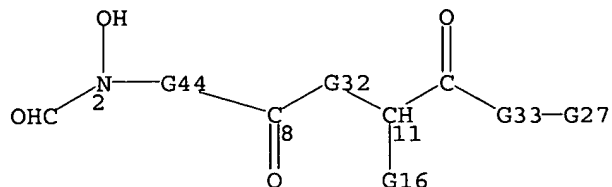
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000012466	A1	20000309	WO 1999-US19304	19990825
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PRIORITY APPLN. INFO.:

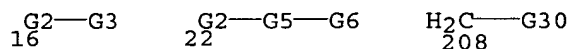
AB A family of compds. of general structural formula  
 $\text{HCON(OH)CHR}_1\text{CHR}_2\text{CONR}_3\text{CHR}_4\text{CONR}_5\text{R}_6$  [R1 is -A1-A2-A3, where A1 = alkylene,  
 alkenylene, alkynylene, or a direct bond; A2 = O, S, SO, SO2, or a direct  
 bond; A3 = alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl,  
 heterocyclyl, heteroaryl, aryl, or H; R2 = -D1-D2-D3-D4, where D1 = CH2,  
 CHMe, or a direct bond; D2 = alkylene, alkenylene, alkynylene, or a direct  
 bond; D3 = cycloalkylene, cycloalkenylene, heterocyclylene, arylene,  
 heteroarylene, or a direct bond; D4 = alkyl, aryl, heteroaryl, H; R3, R5 =  
 H, alkyl; R4 = -E1-E2-E3-E4, where E1 = alkylene, alkenylene, alkynylene,  
 or a direct bond; E2 = S, O, SO, SO2, CO2, etc., or a direct bond; E3 =  
 alkylene, cycloalkylene, cycloalkenylene, arylene, heterocyclylene,  
 heteroarylene, or a direct bond; E4 = -NE5C(NH2):NNO2, where E5 = H,  
 alkyl; R6 = -Z1-Z2, where Z1 = heteroarylene or a direct bond; Z2 = H,  
 alkyl, aryl, etc.] were prepared as matrix metalloprotease inhibitors.  
 Thus, peptide I, prepared in 11 steps from Me butyrylacetate, isobutenyl  
 bromide, O-(tetrahydropyranyl)hydroxylamine, (S)-2-[(tert-  
 butoxycarbonyl)amino]-5-[[[(nitroimino)aminomethyl]aminol]pentanoic acid,  
 and 2-aminothiazole, inhibited TNF $\alpha$  converting enzyme,

collagenase-1, collagenase-3, gelatinase B, and stromelysin 1, all with Ki <50 nm.

## MSTR 1

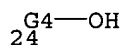


G1 = carbon chain <containing 1 or more C, 0 or more double bonds, 0 or more triple bonds> (opt. substd.) / 16 / 22 / (Specifically claimed: 208 / CF3 / Pr-i / CH2CH2CHMe2)



G2 = carbon chain <containing 1 or more C, 0 or more double bonds, 0 or more triple bonds> (opt. substd.)

G3 = carbocycle <containing 3-12 C, 0 or more double bonds> (opt. substd.) / heterocycle <containing 3-12 atoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), non-aromatic, 0 or more double bonds> (opt. substd.) / heterocycle <containing zero or more N, zero or more O, zero or more S (no other heteroatoms), aromatic, 2 or more double bonds, mono- or polycyclic, including 5-, 6- or 7-membered rings> (opt. substd.) / Ph (opt. substd.) / aryl <containing 6 or more C> (opt. substd.) / OH / SH / 24

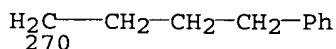
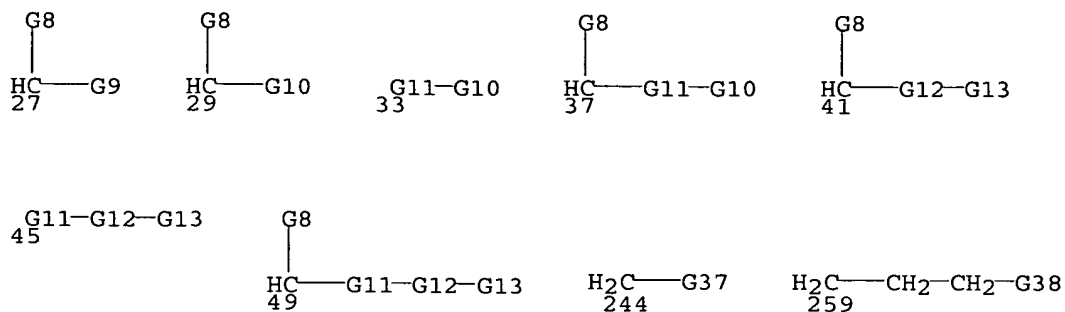


G4 = S / S(O)

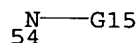
G5 = O / S / S(O) / SO2

G6 = carbon chain <containing 1 or more C, 0 or more double bonds, 0 or more triple bonds> (opt. substd.) / carbocycle <containing 3-12 C, 0 or more double bonds> (opt. substd.) / heterocycle <containing 3-12 atoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), non-aromatic, 0 or more double bonds> (opt. substd.) / heterocycle <containing zero or more N, zero or more O, zero or more S (no other heteroatoms), aromatic, 2 or more double bonds, mono- or polycyclic, including 5-, 6- or 7-membered rings> (opt. substd.) / Ph (opt. substd.) / aryl <containing 6 or more C> (opt. substd.)

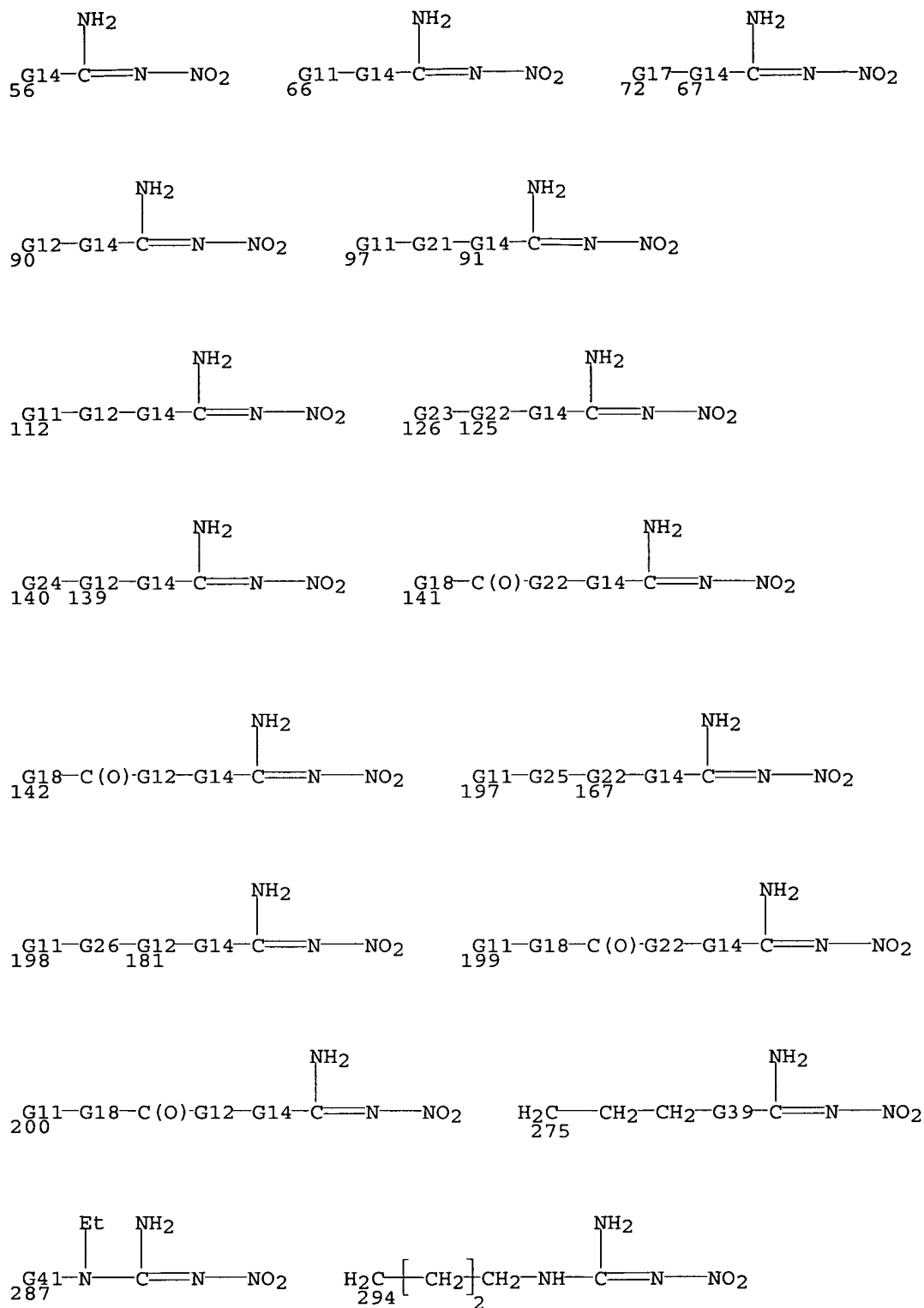
G7 = carbon chain <containing 1 or more C, 0 or more double bonds, 0 or more triple bonds> (opt. substd.) / 27 / 29 / 33 / 37 / 41 / 45 / 49 / (Specifically claimed: Bu-i / 244 / 259 / 270)

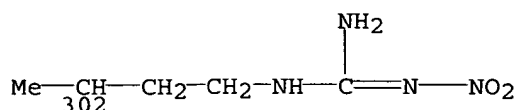


- G8 = H / Me  
 G9 = carbon chain <containing 1 or more C,  
 0 or more double bonds, 0 or more triple bonds>  
 (opt. substd.)  
 G10 = Ph (opt. substd.) / aryl <containing 6 or more C>  
 (opt. substd.) / heterocycle <containing zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 aromatic, 2 or more double bonds, mono- or polycyclic,  
 including 5-, 6- or 7-membered rings> (opt. substd.) / H  
 G11 = carbon chain <containing 1 or more C,  
 0 or more double bonds, 0 or more triple bonds>  
 (opt. substd.)  
 G12 = carbocycle <containing 3-12 C,  
 0 or more double bonds> (opt. substd.) /  
 heterocycle <containing 3-12 atoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 non-aromatic, 0 or more double bonds> (opt. substd.) /  
 arylene <containing 6 or more C> (opt. substd.) /  
 heterocycle <containing zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), aromatic,  
 2 or more double bonds, mono- or polycyclic, including 5-,  
 6- or 7-membered rings> (opt. substd.)  
 G13 = alkyl <containing 1-10 C> (opt. substd.) /  
 Ph (opt. substd.) / aryl <containing 6 or more C>  
 (opt. substd.) / heterocycle <containing zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 aromatic, 2 or more double bonds, mono- or polycyclic,  
 including 5-, 6- or 7-membered rings> (opt. substd.) / H  
 G14 = NH / 54

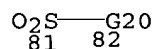
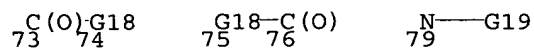


- G15 = alkyl <containing 1-6 C> (opt. substd.)  
 G16 = 56 / 66 / 72 / 90 / 97 / 112 / 126 / 140 / 141 /  
 142 / 197 / 198 / 199 / 200 / (Specifically claimed: 275 /  
 287 / 294 / 302)

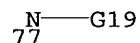




G17 = S / O / S(O) / SO2 / 73-11 74-67 / 75-11 76-67 /  
NH / 79 / 81-11 82-67

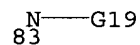


G18 = O / NH / 77



G19 = carbon chain <containing 1 or more C,  
0 or more double bonds, 0 or more triple bonds>  
(opt. substd.) / carbocycle <containing 3-12 C,  
0 or more double bonds> (opt. substd.) / Ph (opt. substd.) /  
aryl <containing 6 or more C> (opt. substd.) /  
heterocycle <containing 3-12 atoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms),  
non-aromatic, 0 or more double bonds> (opt. substd.) /  
heterocycle <containing zero or more N, zero or more O,  
zero or more S (no other heteroatoms), aromatic,  
2 or more double bonds, mono- or polycyclic, including 5-,  
6- or 7-membered rings> (opt. substd.)

G20 = NH / 83

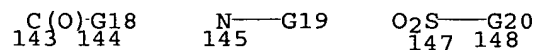


G21 = S / O / S(O) / SO2 / 98-97 99-91 / 100-97 101-91 /  
NH / 102 / 104-97 105-91

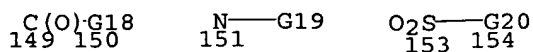


G22 = alkylene <containing 1-10 C> (opt. substd.)

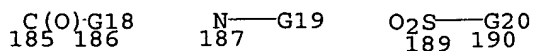
G23 = S / O / S(O) / SO2 / 143-11 144-125 / NH / 145 /  
147-11 148-125



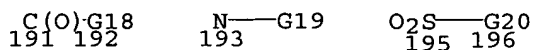
G24 = S / O / S(O) / SO2 / 149-11 150-139 / NH / 151 /  
153-11 154-139



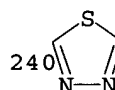
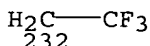
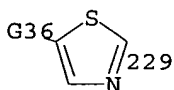
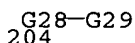
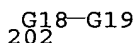
G25 = S / O / S(O) / SO<sub>2</sub> / 185-197 186-167 / NH / 187 / 189-197 190-167



G26 = S / O / S(O) / SO<sub>2</sub> / 191-198 192-181 / NH / 193 / 195-198 196-181

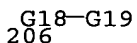


G27 = carbon chain <containing 1 or more C, 0 or more double bonds, 0 or more triple bonds> (opt. substd.) / carbocycle <containing 3-12 C, 0 or more double bonds> (opt. substd.) / Ph (opt. substd.) / aryl <containing 6 or more C> (opt. substd.) / heterocycle <containing 3-12 atoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), non-aromatic, 0 or more double bonds> (opt. substd.) / heterocycle <containing zero or more N, zero or more O, zero or more S (no other heteroatoms), aromatic, 2 or more double bonds, mono- or polycyclic, including 5-, 6- or 7-membered rings> (opt. substd.) / OH / NH<sub>2</sub> / 202 / H / 204 / (Specifically claimed: Me / 229 / cyclopropyl / cyclobutyl / cycloheptyl / 232 / cyclopentyl / 236 / 2-pyridyl / 240)

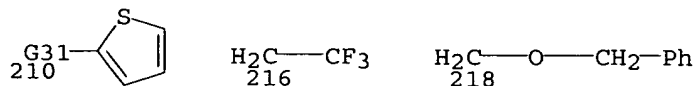


G28 = heterocycle <containing zero or more N, zero or more O, zero or more S (no other heteroatoms), aromatic, 2 or more double bonds, mono- or polycyclic, including 5-, 6- or 7-membered rings> (opt. substd.)

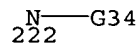
G29 = carbon chain <containing 1 or more C, 0 or more double bonds, 0 or more triple bonds> (opt. substd.) / carbocycle <containing 3-12 C, 0 or more double bonds> (opt. substd.) / Ph (opt. substd.) / aryl <containing 6 or more C> (opt. substd.) / heterocycle <containing 3-12 atoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), non-aromatic, 0 or more double bonds> (opt. substd.) / heterocycle <containing zero or more N, zero or more O, zero or more S (no other heteroatoms), aromatic, 2 or more double bonds, mono- or polycyclic, including 5-, 6- or 7-membered rings> (opt. substd.) / OH / NH<sub>2</sub> / 206 / H



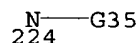
G30 = H / Me / SPh / SO<sub>2</sub>Ph / 210 / OCH<sub>2</sub>Ph / Ph / Et /  
216 / 218



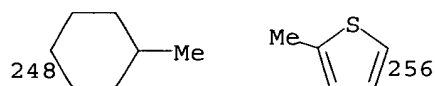
G31 = S / SO<sub>2</sub>  
G32 = NH / 222



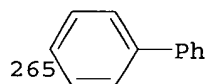
G33 = NH / 224



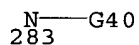
G34 = alkyl <containing 1-6 C> (opt. substd.) /  
(Specifically claimed: Me / Et)  
G35 = alkyl <containing 1-6 C> (opt. substd.) /  
(Specifically claimed: Me / Et / Pr-n)  
G36 = Et / H  
G37 = cyclohexyl / 248 / cycloheptyl / 256 / Ph



G38 = 2-furyl / 265 / Ph



G39 = NH / 283

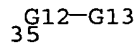


G40 = Et / Me / Pr-i  
G41 = (1-2) CH<sub>2</sub>  
G42 = H / carbocycle <containing 3-12 C,  
0 or more double bonds> (opt. substd.) /  
heterocycle <containing 3-12 atoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms),  
non-aromatic, 0 or more double bonds> (opt. substd.) /  
heterocycle <containing zero or more N, zero or more O,  
zero or more S (no other heteroatoms), aromatic,  
2 or more double bonds, mono- or polycyclic, including 5-,  
6- or 7-membered rings> (opt. substd.) / Ph (opt. substd.) /  
aryl <containing 6 or more C> (opt. substd.) / OH / SH / 18 /  
20 / (Specifically claimed: cyclopropyl)

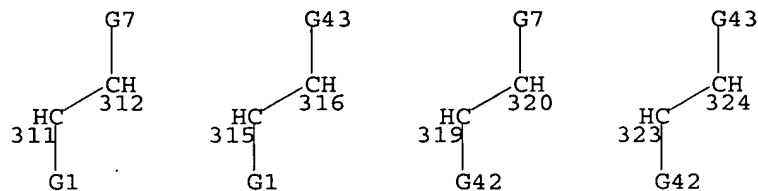




G43 = Ph (opt. substd.) / aryl <containing 6 or more C> (opt. substd.) / heterocycle <containing zero or more N, zero or more O, zero or more S (no other heteroatoms), aromatic, 2 or more double bonds, mono- or polycyclic, including 5-, 6- or 7-membered rings> (opt. substd.) / H / 35 / (Specifically claimed: cyclohexyl)



G44 = 311-2 312-8 / 315-2 316-8 / 319-2 320-8 / 323-2 324-8



Derivative: or pharmaceutically acceptable salts, solvates, biohydrolyzable esters or amides, affinity reagents, or prodrugs

Patent location: claim 1

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 95 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 132:3600 MARPAT

TITLE: Stabilized mixtures containing vinyl compounds

INVENTOR(S): Sutoris, Heinz Friedrich; Haremza, Sylke; Merger, Roland; Kaliba, Claus; Bertlein, Gerhard

PATENT ASSIGNEE(S): BASF A.-G., Germany

SOURCE: PCT Int. Appl., 60 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

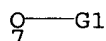
PATENT INFORMATION:

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WO 9960072	A1	19991125	WO 1999-EP3005	19990504
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RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
DE 19917967	A1	19991118	DE 1999-19917967	19990421
AU 9939304	A1	19991206	AU 1999-39304	19990504
PRIORITY APPLN. INFO.:			DE 1998-19821664	19980514

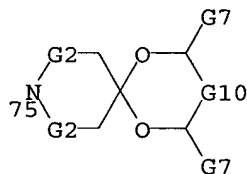
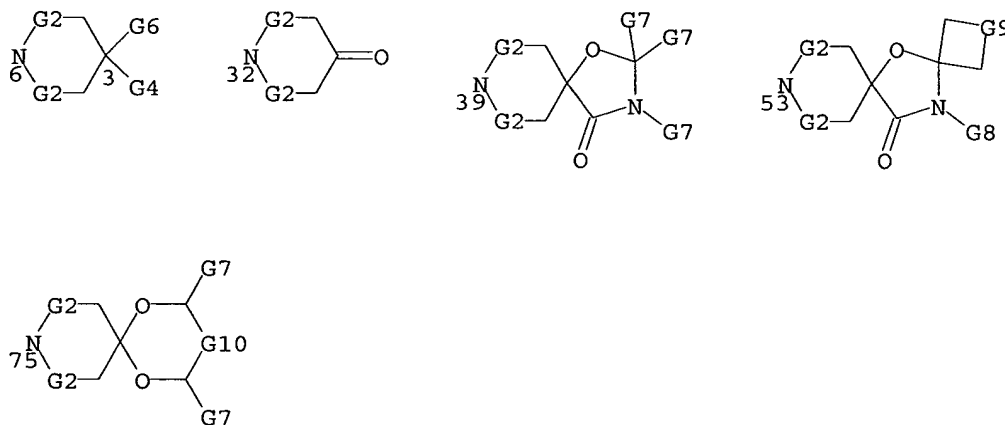
WO 1999-EP3005 19990504

AB The title mixts. contain (A) polymerizable vinyl compds. (structures specified), (B) mixts. which inhibit premature polymerization of the vinyl compds., and, optionally, (C) nitro compds. and (D) stabilizers. The mixts. (B) contain (i)  $\geq 1$  N-oxyl compound of a secondary amine which does not carry H atoms on the  $\alpha$ -C atoms (structures specified), and (ii)  $\geq 1$  compound of a transition metal (except Fe), e.g., metal carbonyl compds., (un)substituted metallocenes, metal halides, etc. (no examples). A method for inhibiting premature polymerization of compds. containing vinyl groups and the use of mixts. (B), optionally mixed with nitro compds. and/or costabilizers for inhibiting premature polymerization of radical polymerizable compds. and for stabilizing organic materials against the damaging effect of radicals are also claimed.

## MSTR 3



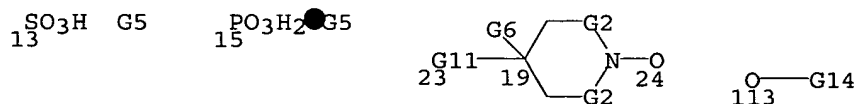
G1 = 6 / 32 / 39 / 53 / 75

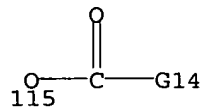


G2 = 9 / carbocycle <containing 5-6 C,  
attached through 1 C, non-aromatic, saturated,  
5- to 6-membered monocyclic ring>

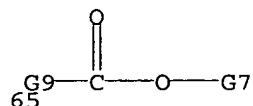


G3 = alkyl <containing 1-4 C> / Ph  
G4 = H / OH / NH<sub>2</sub> / SO<sub>3</sub>H / 13 / PO<sub>3</sub>H<sub>2</sub> / 15 /  
R <"organosilicon group"> / 23 /  
(Specifically claimed: 113 / 115)

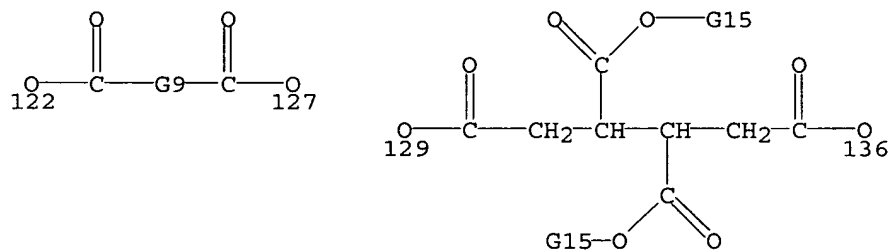
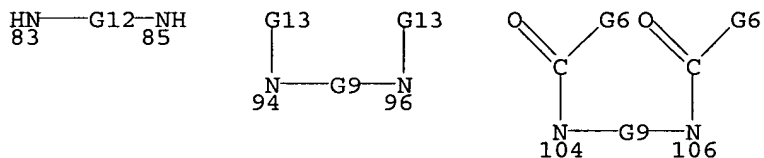


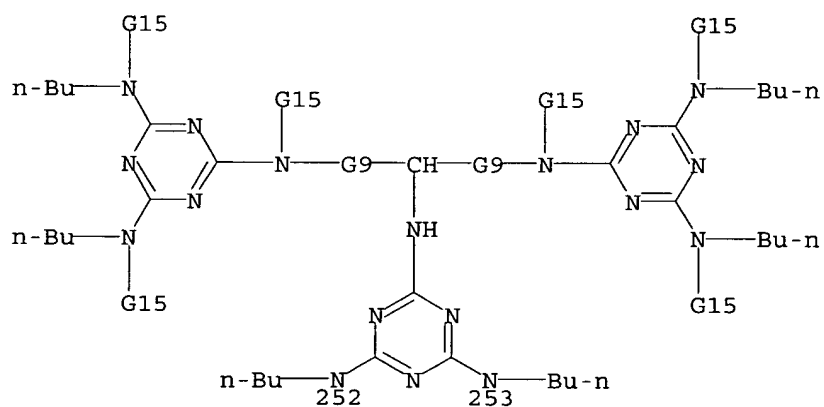
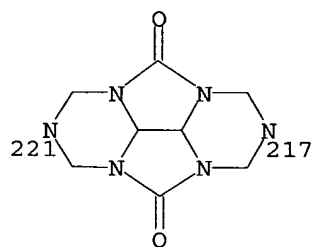
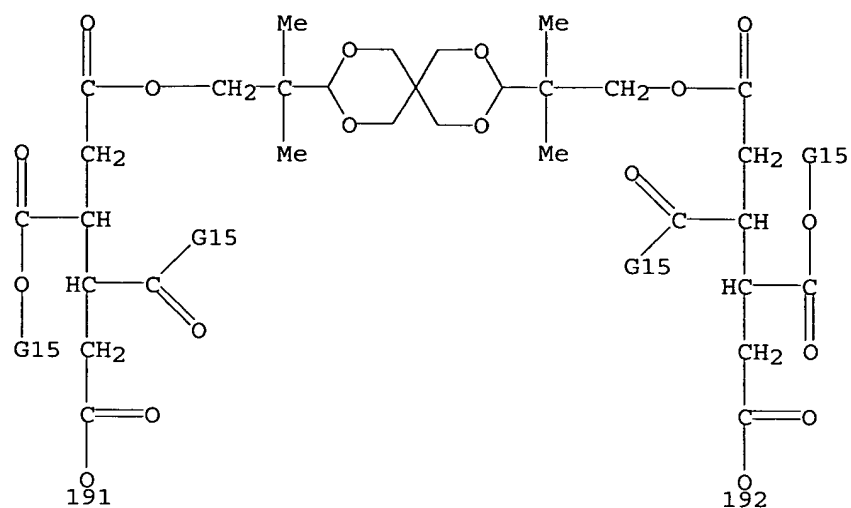
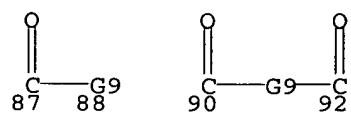


G5 = alkali metal atom  
 G6 = H / alkyl <containing 1-12 C>  
 G7 = alkyl <containing 1-18 C>  
 G8 = H / alkyl <containing 1-12 C> / 65

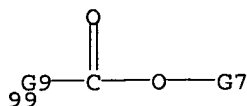


G9 = (1-12) CH2  
 G10 = (0-1) CH2  
 G11 = R <"multivalent organic group"> /  
 (Specifically claimed: 83-3 85-19 / 94-3 96-19 /  
 104-3 106-19 / 122-3 127-19 / 129-3 136-19 /  
 191-3 192-19 / 221-3 217-19 / 252-3 253-19 )

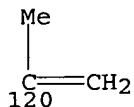



$$G12 = G9 / 87-83 \quad 88-85 \quad / \quad 90-83 \quad 92-85$$


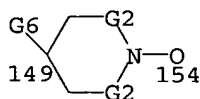
G13 = alkyl <containing 1-12 C> / 99



G14 = alkyl <containing 1-18 C> / CH=CH2 / 120



G15 = 149



Patent location: claim 8  
Note: oxygen at 7, 24, and 154 is free radical

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 96 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 131:319669 MARPAT

TITLE: Benzamide derivatives as histone deacetylase inhibitors for treating tumors and other diseases

INVENTOR(S): Suzuki, Tsuneji; Ando, Tomoyuki; Tsuchiya, Katsutoshi; Nakanishi, Satoru; Saito, Akiko; Yamashita, Satoshi

PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 26 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

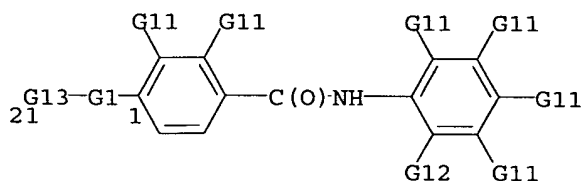
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

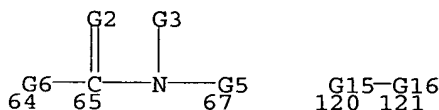
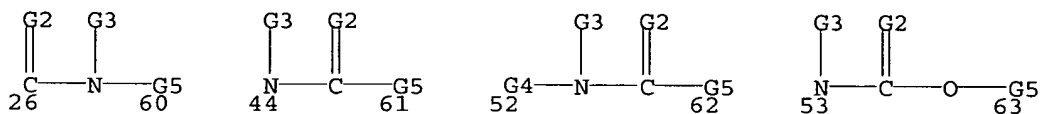
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11302173	A2	19991102	JP 1998-106742	19980416
PRIORITY APPLN. INFO.:			JP 1998-106742	19980416

AB A series of benzamide derivs. (I; A=(substituted) pyridine, condensed pyridine; X=direct link; (CH)<sub>e</sub> etc. where e=1.apprx.4; Q=CONR<sub>7</sub>, etc. where R<sub>7</sub>=H, C1-4 alkyl; R<sub>1</sub>,R<sub>2</sub>=H, halo, OH, amino, C1-4 alkyl, etc.; R<sub>3</sub>=amino, OH; n=1.apprx.4) exhibiting the histone deacetylase-inhibiting activities are provided for treating tumors, autoimmune diseases, infectious diseases, skin diseases, allergy, vascular diseases, or for improving gene therapy effects. In vitro assessment of I for the histone deacetylase-inhibiting activities using histone deacetylase partially purified from K562 cells was demonstrated.

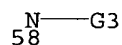
MSTR 1



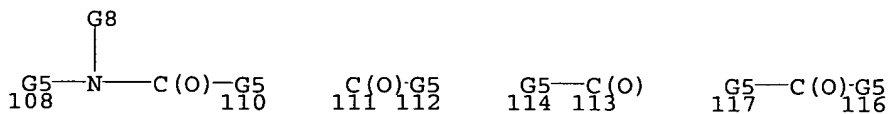
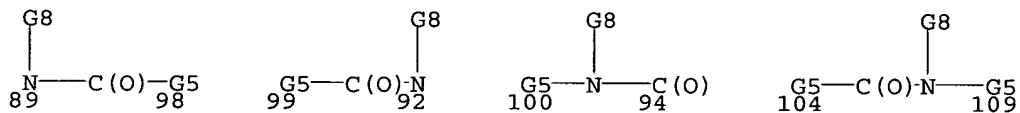
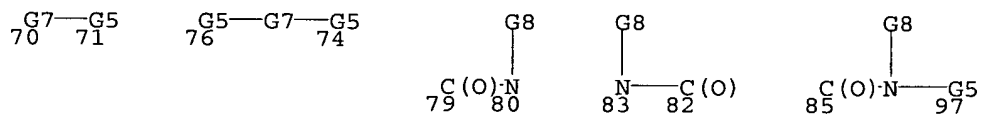
G1 = 26-21 60-1 / 44-21 61-1 / 52-21 62-1 /  
53-21 63-1 / **64-21 67-1** / 120-21 121-1



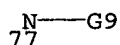
G2 = O / S  
G3 = H / alkyl <containing 1-4 C> (opt. substd.)  
G4 = O / 58



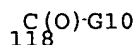
G5 = (1-4) CH2  
G6 = G5 / 70-21 71-65 / 76-21 74-65 / C(O) /  
79-21 80-65 / 83-21 82-65 / 85-21 97-65 / **89-21 98-65** /  
99-21 92-65 / 100-21 94-65 / 104-21 109-65 /  
108-21 110-65 / 111-21 112-65 / 114-21 113-65 /  
117-21 116-65



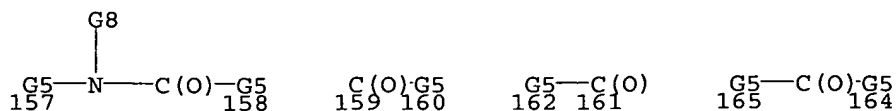
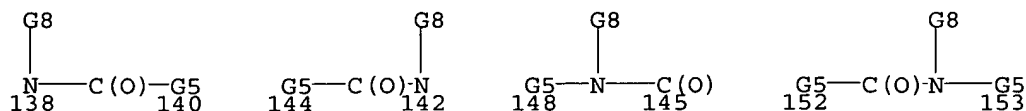
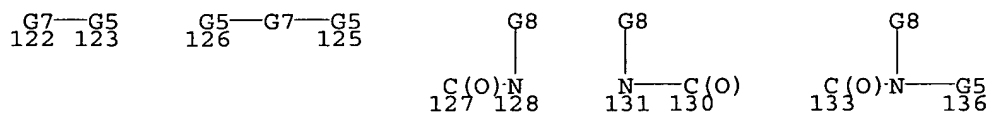
G7 = 77 / O / S



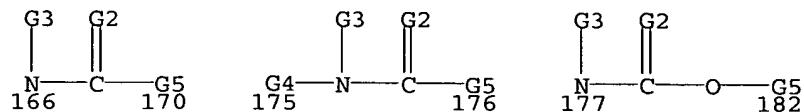
G8 = H / alkyl <containing 1-4 C> (opt. substd.)  
 G9 = H / alkyl <containing 1-4 C> (opt. substd.) / 118



G10 = alkyl <containing 1-4 C> /  
 perfluoroalkyl <containing 1-4 C> / Ph (opt. substd.) /  
 pyridyl (opt. substd.)  
 G11 = H / F / Cl / Br / I / NH<sub>2</sub> / OH /  
 alkyl <containing 1-4 C> / alkoxy <containing 1-4 C> /  
 alkyl <containing 1-4 C> (substd. by NH<sub>2</sub>) /  
 alkylamino <containing 1-4 C> / acyl / acylamino /  
 alkylthio <containing 1-4 C> / perfluoroalkyl <containing  
 1-4 C> / CO<sub>2</sub>H / perfluoroalkyloxy <containing 1-4 C> /  
 alkoxycarbonyl <containing 1-4 C>  
 G12 = NH<sub>2</sub> / OH  
 G13 = pyridyl (opt. substd. by 1 or more G14) /  
**heterocycle <containing 1 or more N, aromatic,  
 6 or more normalized bonds, bicyclic,  
 1 or more 5-membered rings> (opt. substd. by 1 or more G14)**  
 G14 = F / Cl / Br / I / NH<sub>2</sub> / NO<sub>2</sub> / OH / CN /  
 alkyl <containing 1-4 C> / alkoxy <containing 1-4 C> /  
 alkyl <containing 1-4 C> (substd. by NH<sub>2</sub>) /  
 alkylamino <containing 1-4 C> / acyl / acylamino /  
 alkylthio <containing 1-4 C> / perfluoroalkyl <containing  
 1-4 C> / perfluoroalkyloxy <containing 1-4 C> / CO<sub>2</sub>H /  
 alkoxycarbonyl <containing 1-4 C>  
 G15 = G5 / C(O) / 122-21 123-121 / 126-21 125-121 /  
 127-21 128-121 / 131-21 130-121 / 133-21 136-121 /  
 138-21 140-121 / 144-21 142-121 / 148-21 145-121 /  
 152-21 153-121 / 157-21 158-121 / 159-21 160-121 /  
 162-21 161-121 / 165-21 164-121



G16 = 166-120 170-1 / 175-120 176-1 / 177-120 182-1



Derivative: and pharmacologically acceptable salts  
 Patent location: claim 1  
 Note: substitution is restricted

L71 ANSWER 97 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 131:243189 MARPAT

TITLE: Preparation of aminoisoquinoline derivatives as inhibitors of activated blood coagulation factor X  
 INVENTOR(S): Nakagawa, Tadakiyo; Makino, Shingo; Sagi, Kazuyuki; Takayanagi, Masaru; Kayahara, Takashi; Takehana, Shunji

PATENT ASSIGNEE(S): Ajinomoto Co., Inc., Japan

SOURCE: PCT Int. Appl., 80 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

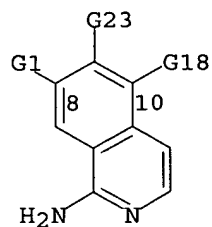
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9947503	A1	19990923	WO 1999-JP1309	19990317
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2324153	AA	19990923	CA 1999-2324153	19990317
AU 9928522	A1	19991011	AU 1999-28522	19990317
AU 753675	B2	20021024		
EP 1065200	A1	20010103	EP 1999-909191	19990317
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE, PT, IE, FI				
US 6825181	B1	20041130	US 2000-665633	20000919
PRIORITY APPLN. INFO.:				
			JP 1998-70771	19980319
			JP 1998-197133	19980713
			WO 1999-JP1309	19990317

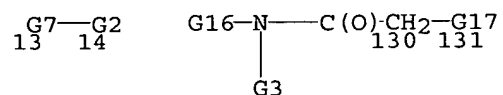
AB The title compds. I [A is VLY, A1 is H; or A1 is VLY, A is H; L is CH<sub>2</sub>CH<sub>2</sub>, etc.; V is, for example, H, (un)substituted benzoyl, etc.; extensive details on V are given; Y is CH:CH, etc.; Z = H, alkyl, etc.] are prepared I are useful as active ingredients in anticoagulants or preventives/remedies for thrombosis or embolism. In an in vitro test for inhibition of the activated blood coagulation factor X, the title compound II showed pIC<sub>50</sub> of 6.6.

MSTR 1

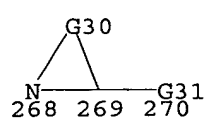
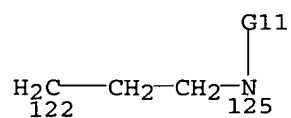
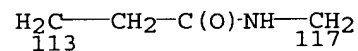
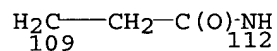
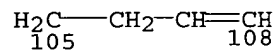
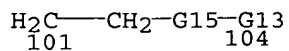
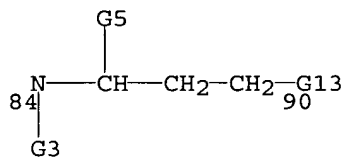
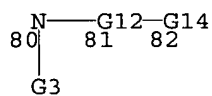
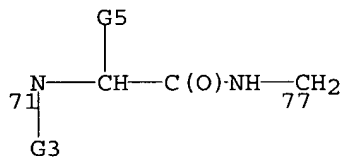
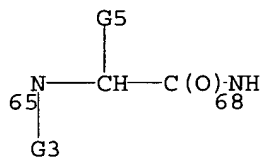
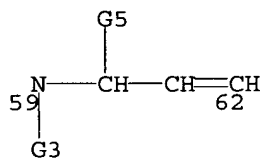
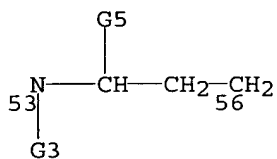
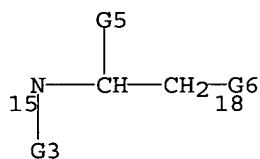




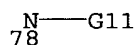
G1 = 14 / 131



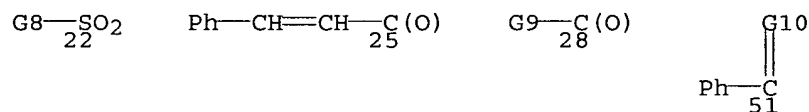
G2 = 15-13 18-8 / 84-13 90-8 / 53-13 56-8 /  
 59-13 62-8 / 65-13 68-8 / 71-13 77-8 / 80-13 82-8 /  
 101-13 104-8 / 105-13 108-8 / 109-13 112-8 /  
 113-13 117-8 / 122-13 125-8 / 268-13 270-8



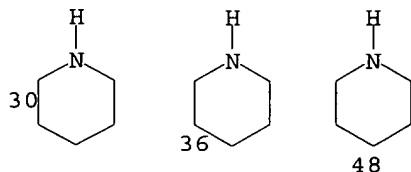
- G3 = H / alkyl <containing 1-6 C> /  
cycloalkyl <containing 3-6 C> /  
alkyl <containing 1 or more C> (substd. by cycloalkyl  
<containing 3 or more C>) / aryl <containing 6-10 C> /  
heteroaryl <containing 1-3 heteroatoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms),  
4-10 C> / alkyl <containing 1 or more C>  
(substd. by 1 or more G4) / alkylsulfonyl <containing 1-3 C>  
(substd. by CO<sub>2</sub>H) / (Specifically claimed: Me / CH<sub>2</sub>Ph)
- G4 = aryl <containing 6 or more C> /  
heteroaryl <containing 1-3 heteroatoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms),  
4-10 C>
- G5 = H / CO<sub>2</sub>H / alkoxy carbonyl <containing 1-3 C>  
(opt. substd.) / alkyl <containing 1-3 C> (opt. substd.) /  
cyclopropyl (opt. substd.) / CH<sub>2</sub>Ph
- G6 = O / S / 78



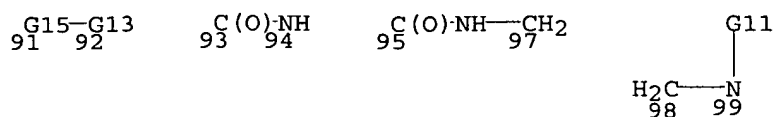
- G7 = H / 22 / 28 / 25 / 51



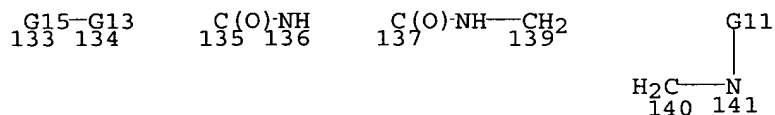
- G8 = alkyl <containing 1-6 C> (opt. substd.) /  
cycloalkyl <containing 3-6 C> (opt. substd.) /  
alkyl <containing 1 or more C> (substd. by G34) / Ph /  
2-naphthyl
- G9 = Ph (opt. substd.) / piperidino / 30 / 36 / 48 /  
CH<sub>2</sub>Ph / pyridyl / thienyl



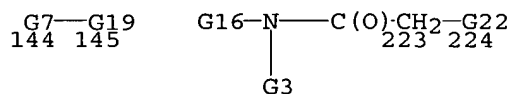
- G10 = S / NH
- G11 = H / alkyl <containing 1-6 C> (substd. by CO<sub>2</sub>H) /  
cycloalkyl <containing 3-6 C> (substd. by CO<sub>2</sub>H) /  
alkyl <containing 1-7 C> (substd. by alkoxy carbonyl  
<containing 1-7 C>) / cycloalkyl <containing 3-7 C>  
(substd. by alkoxy carbonyl <containing 1-7 C>) /  
alkenyl <containing 2-6 C> (substd. by CO<sub>2</sub>H)
- G12 = p-C<sub>6</sub>H<sub>4</sub> / m-C<sub>6</sub>H<sub>4</sub>
- G13 = O / S
- G14 = 91-81 92-8 / CH<sub>2</sub>CH<sub>2</sub> / CH=CH / 93-81 94-8 /  
95-81 97-8 / 98-81 99-8



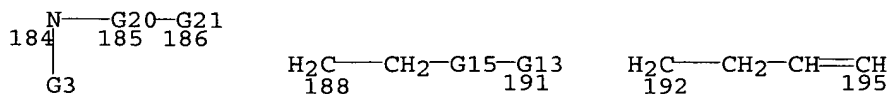
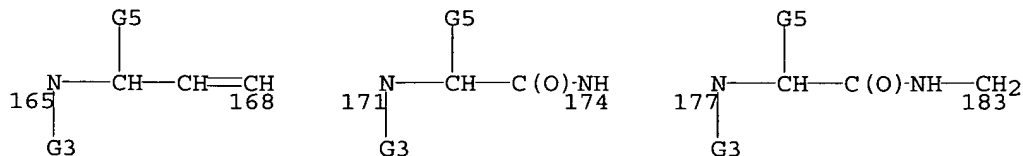
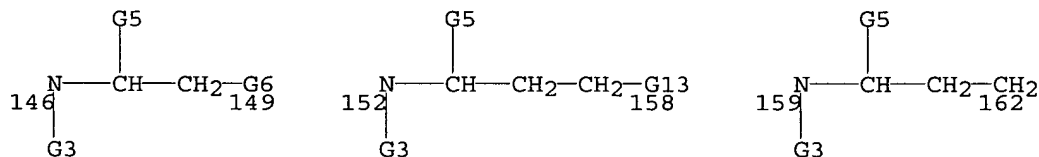
- G15 = (1-2) CH<sub>2</sub>  
 G16 = aryl <containing 6-10 C> (opt. substd.) /  
 heteroaryl <containing 1-3 heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 4-10 C> (opt. substd.)  
 G17 = 133-130 134-8 / CH<sub>2</sub>CH<sub>2</sub> / CH=CH / 135-130 136-8 /  
 137-130 139-8 / 140-130 141-8

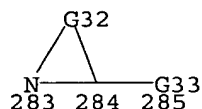
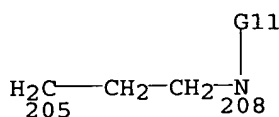
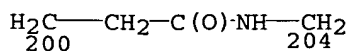
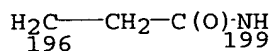


- G18 = H / 145 / 224



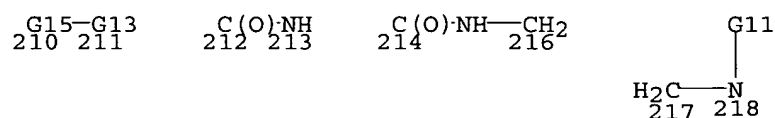
- G19 = 146-144 149-10 / 152-144 158-10 /  
 159-144 162-10 / 165-144 168-10 / 171-144 174-10 /  
 177-144 183-10 / 184-144 186-10 / 188-144 191-10 /  
 192-144 195-10 / 196-144 199-10 / 200-144 204-10 /  
 205-144 208-10 / 283-144 285-10



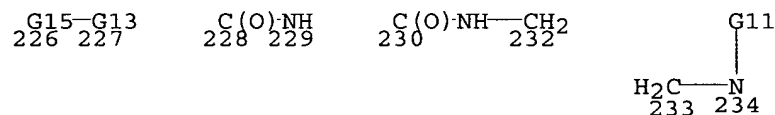


G20 = p-C6H4 / m-C6H4

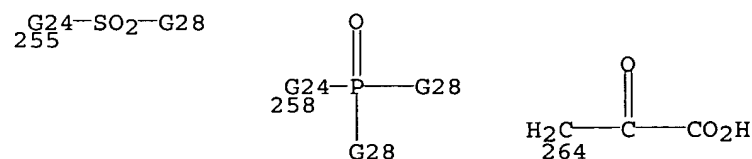
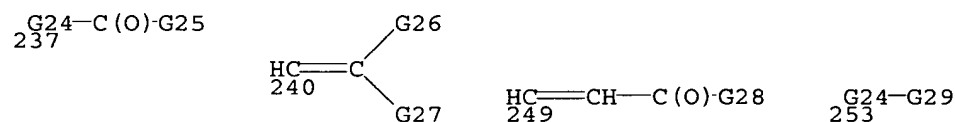
G21 = 210-185 211-10 / CH2CH2 / CH=CH / 212-185 213-10 /  
214-185 216-10 / 217-185 218-10



G22 = 226-223 227-10 / CH2CH2 / CH=CH / 228-223 229-10 /  
230-223 232-10 / 233-223 234-10



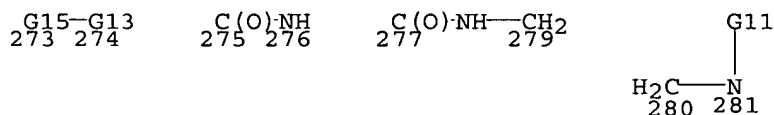
G23 = H / alkyl <containing 1-6 C> /  
cycloalkyl <containing 3-6 C> /  
alkyl <containing 1 or more C> (substd. by cycloalkyl  
<containing 3 or more C>) / halo / NH2 / 237 / 240 / 249 /  
253 / 255 / 258 / (Specifically claimed: I / Me / 264)



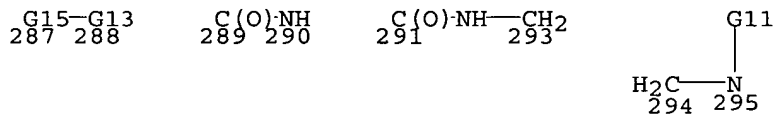
G24 = (0-3) CH2

G25 = OH / CO2H / NH2 / alkoxy carbonyl <containing 1-6 C>  
/ aryl <containing 6-10 C> / heteroaryl <containing 1-3  
heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms), 4-10 C> /

- alkoxy <containing 1-3 C> / alkyl <containing 1 or more C>  
(substd. by 1 or more G4)
- G26 = CO<sub>2</sub>H / alkoxycarbonyl <containing 1-6 C> /  
aryl <containing 6-10 C> / heteroaryl <containing 1-3  
heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms), 4-10 C> /  
alkoxy <containing 1-3 C> / alkyl <containing 1 or more C>  
(substd. by 1 or more G4)
- G27 = H / alkoxycarbonylamino <containing 1-6 C> /  
alkylcarbonylamino <containing 1-6 C>
- G28 = OH / NH<sub>2</sub> / aryl <containing 6-10 C> /  
heteroaryl <containing 1-3 heteroatoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms),  
4-10 C> / alkoxy <containing 1-3 C> /  
alkyl <containing 1 or more C> (substd. by 1 or more G4)
- G29 = OH / alkoxy <containing 1-6 C> /  
cycloalkyloxy <containing 3-6 C> /  
alkoxy <containing 1 or more C>  
(substd. by cycloalkyl <containing 3 or more C>)
- G30 = CH<sub>2</sub>CH<sub>2</sub> / CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub> / CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>
- G31 = 273-269 274-8 / CH<sub>2</sub>CH<sub>2</sub> / CH=CH / 275-269 276-8 /  
277-269 279-8 / 280-269 281-8



- G32 = CH<sub>2</sub>CH<sub>2</sub> / CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub> / CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>
- G33 = 287-284 288-10 / CH<sub>2</sub>CH<sub>2</sub> / CH=CH / 289-284 290-10 /  
291-284 293-10 / 294-284 295-10



- G34 = cycloalkyl <containing 3 or more C> (opt. substd.) /  
R

Derivative: or pharmaceutically acceptable salts  
Patent location: claim 1

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 98 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 131:87753 MARPAT

TITLE: Preparation of 2-β-substituted-6-  
alkylidenepenicillanic acid derivatives as  
β-lactamase inhibitors

INVENTOR(S): Buynak, John D.; Rao, Akireddy Srinivasa

PATENT ASSIGNEE(S): Research Corporation Technologies, Inc., USA

SOURCE: PCT Int. Appl., 67 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

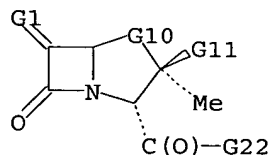
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

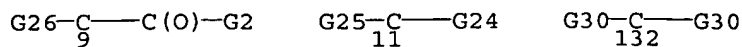
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9933838	A1	19990708	WO 1998-US27639	19981229
W: CA, JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2282461	AA	19990708	CA 1998-2282461	19981229
CA 2282461	C	20040420		
EP 966471	A1	19991229	EP 1998-964952	19981229
EP 966471	B1	20020612		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE, PT, IE				
US 6156745	A	20001205	US 1998-223077	19981229
JP 2001501978	T2	20010213	JP 1999-535259	19981229
AT 219085	E	20020615	AT 1998-964952	19981229
ES 2178301	T3	20021216	ES 1998-964952	19981229
US 2001021706	A1	20010913	US 2000-725611	20001129
US 6436398	B2	20020820		
US 2002198180	A1	20021226	US 2002-163684	20020605
US 6770759	B2	20040803		
US 2004220399	A1	20041104	US 2004-855053	20040527
PRIORITY APPLN. INFO.:			US 1997-70240P	19971229
			US 1998-223077	19981229
			WO 1998-US27639	19981229
			US 2000-725611	20001129
			US 2002-163684	20020605
AB The title compds. I (R1 and R2 are each independently hydrogen, (C1-C10)alkyl, (C3-C8)cycloalkyl, (C2-C10)alkenyl, (C2-C10)alkynyl, -COORa, -CONRbRc, cyano, -C(=O)Rd, -ORE, aryl, heteroaryl, oxazolidinyl, isoxazolidinyl, morpholinyl, -S(O)mRf, -NRgRh, azido, or halo; R3 is (C3-C10)alkyl, (C2-C10)alkenyl, (C2-C10)alkynyl, (C1-C10)alkanoyl, (C3-C8)cycloalkyl, aryl, heteroaryl, aryl(C1-C10)alkyl, heteroaryl(C1-C10)alkyl, or -CH2Ri, Ri is halo, cyano, cyanato, -ORj, -NRkRl, azido, -SRm, or (C3-C8)cycloalkyl; R4 is hydrogen, (C1-C10)alkyl, (C3-C8)cycloalkyl, (C2-C10)alkenyl, (C2-C10)alkynyl, aryl, or heteroaryl; m and n are each independently 0, 1, or 2; Ra-Rh and Rj-Rm are hydrogen, (C1-C10)alkyl, (C3-C8)cycloalkyl, (C2-C10)alkenyl, (C2-C10)alkynyl, aryl, heteroaryl, etc.) and their pharmaceutically acceptable salts, were prepared and are useful for inhibiting $\beta$ -lactamase enzymes, for enhancing the activity of $\beta$ -lactam antibiotics, and for treating $\beta$ -lactam resistant bacterial infections in a mammal. The invention also provides pharmaceutical compns. containing I. Thus, the 6-alkylidenepenicillanic acid derivative II was prepared in 6 steps from the benzhydryl 6-oxopenicillanate via cyclization of the $\beta$ -lactam III with AgOAc and AcOH in CH2Cl2.				

## MSTR 1



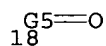
G1 = 11 / 9 / 132



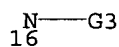
G2 = OH / NH<sub>2</sub> / 14 / H / cycloalkyl <containing 3-8 C> (opt. substd.) / Ph (opt. substd.) / aryl <containing 9-10 C, bicyclic> (opt. substd.) / heteroaryl <containing up to 10 atoms, 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), 1 or more C, attached through 1 or more C, mono- or bicyclic> (opt. substd. by 1 or more G4) / 20 / heterocycle <containing 2 heteroatoms, 1 N, 1 O, non-aromatic, saturated, 5- to 6-membered monocyclic ring> (opt. substd.) / (Specifically claimed: OBU-t / OMe)



G3 = alkyl <containing 1-10 C> (opt. substd.) / cycloalkyl <containing 3-8 C> (opt. substd.) / alkenyl <containing 2-10 C> (opt. substd.) / alkynyl <containing 2-10 C> (opt. substd.) / Ph (opt. substd.) / aryl <containing 9-10 C, bicyclic> (opt. substd.) / heteroaryl <containing up to 10 atoms, 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), 1 or more C, attached through 1 or more C, mono- or bicyclic> (opt. substd. by 1 or more G4) / 18 / heterocycle <containing 2 heteroatoms, 1 N, 1 O, non-aromatic, saturated, 5- to 6-membered monocyclic ring> (opt. substd.)



G4 = R / alkyl <containing 1-4 C> / Ph / CH<sub>2</sub>Ph  
 G5 = heterocycle <containing 5-10 atoms, 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), 1 or more C, attached through 1 C, 2 or more double bonds, mono- or bicyclic, 5- or 6-membered rings only> (opt. substd. by 1 or more G4)  
 G6 = O / NH / 16



G7 = alkyl <containing 1-10 C> (opt. substd.) / alkenyl <containing 2-10 C> (opt. substd.) / alkynyl <containing 2-10 C> (opt. substd.)  
 G8 = O / S / S(O) / SO<sub>2</sub>  
 G9 = alkyl <containing 1-10 C> (opt. substd.) / cycloalkyl <containing 3-8 C> (opt. substd.) / alkenyl <containing 2-10 C> (opt. substd.) / alkynyl <containing 2-10 C> (opt. substd.) / CHO /

alkylcarbonyl <containing 1-9 C> (opt. substd.) /  
 Ph (opt. substd.) / aryl <containing 9-10 C, bicyclic>  
 (opt. substd.) / CH<sub>2</sub>Ph (opt. substd.) /  
 CH<sub>2</sub>CH<sub>2</sub>Ph (opt. substd.) / heteroaryl <containing up to 10  
 atoms, 1-4 heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), 1 or more C,  
 attached through 1 or more C, mono- or bicyclic>  
 (opt. substd. by 1 or more G4) / 73 /  
 heterocycle <containing 2 heteroatoms, 1 N, 1 O,  
 non-aromatic, saturated, 5- to 6-membered monocyclic ring>  
 (opt. substd.)

$\overset{\text{G5=O}}{\underset{73}{\text{C}}}$

G10 = S / S(O) / SO<sub>2</sub>

G11 = alkyl <containing 3-10 C> (opt. substd.) /  
 alkenyl <containing 2-10 C> (opt. substd.) /  
 alkynyl <containing 2-10 C> (opt. substd.) / CHO /  
 alkylcarbonyl <containing 1-9 C> (opt. substd.) /  
 cycloalkyl <containing 3-8 C> (opt. substd.) /  
 Ph (opt. substd.) / aryl <containing 9-10 C, bicyclic>  
 (opt. substd.) / heteroaryl <containing up to 10 atoms,  
 1-4 heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), 1 or more C,  
 attached through 1 or more C, mono- or bicyclic>  
 (opt. substd. by 1 or more G4) / 39 /  
 alkyl <containing 1-10 C> (substd. by 1 or more G12) / 43 /  
 (Specifically claimed: 127)

$\overset{\text{G5=O}}{\underset{39}{\text{C}}} \quad \text{H}_2\text{C}-\underset{43}{\text{G14}} \quad \text{HC}=\underset{127}{\text{CH}}-\text{CN}$

G12 = 1 or more G13 / R

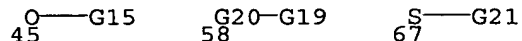
G13 = Ph (opt. substd.) / aryl <containing 9-10 C,  
 bicyclic> (opt. substd.) / heteroaryl <containing up to 10  
 atoms, 1-4 heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), 1 or more C,  
 attached through 1 or more C, mono- or bicyclic>  
 (opt. substd. by 1 or more G4) / 71

$\overset{\text{G5=O}}{\underset{71}{\text{C}}}$

G14 = F / Cl / Br / I / CN / OCN / OH / 45 / NH<sub>2</sub> / 58 /  
 heterocycle <containing 1-4 heteroatoms,  
 1 or more N (no other heteroatoms),  
 attached through 1 or more N, aromatic, 2 double bonds,  
 5-membered monocyclic ring> (opt. substd.) /  
 heterocycle <containing 1-2 heteroatoms, 1 N,  
 up to 1 O (no other heteroatoms),  
 attached through 1 or more N, non-aromatic, saturated,  
 5- to 6-membered monocyclic ring> (opt. substd.) /  
 heterocycle <containing 1 heteroatom, 1 N, 8 C,  
 attached through 1 or more N, aromatic, 1 double bond,  
 6 normalized bonds, bicyclic, (1) 5-membered ring,  
 (1) 6-membered ring> (opt. substd.) / N3 / SH / 67 /



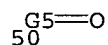
cycloalkyl <containing 3-8 C> (opt. substd.)



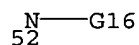
G15 = alkyl <containing 1-10 C> (opt. substd.) /  
cycloalkyl <containing 3-8 C> (opt. substd.) /  
alkenyl <containing 2-10 C> (opt. substd.) /  
alkynyl <containing 2-10 C> (opt. substd.) / CONH2 / 47 /  
Ph (opt. substd.) / aryl <containing 9-10 C, bicyclic>  
(opt. substd.) / heteroaryl <containing up to 10 atoms,  
1-4 heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms), 1 or more C,  
attached through 1 or more C, mono- or bicyclic>  
(opt. substd. by 1 or more G4) / 54 / 56 / CHO /  
alkylcarbonyl <containing 1-9 C> (opt. substd.) /  
(Specifically claimed: 100)



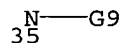
G16 = alkyl <containing 1-10 C> (opt. substd.) /  
Ph (opt. substd.) / aryl <containing 9-10 C, bicyclic>  
(opt. substd.) / CH<sub>2</sub>Ph (opt. substd.) /  
CH<sub>2</sub>CH<sub>2</sub>Ph (opt. substd.) / heteroaryl <containing up to 10  
atoms, 1-4 heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms), 1 or more C,  
attached through 1 or more C, mono- or bicyclic>  
(opt. substd. by 1 or more G4) / 50



G17 = NH / 52

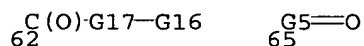


G18 = NH / 35

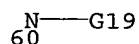


G19 = alkyl <containing 1-10 C> (opt. substd.) /  
cycloalkyl <containing 3-8 C> (opt. substd.) /  
alkenyl <containing 2-10 C> (opt. substd.) /  
alkynyl <containing 2-10 C> (opt. substd.) / CHO /  
alkylcarbonyl <containing 1-9 C> (opt. substd.) / CONH2 /  
62 / Ph (opt. substd.) / aryl <containing 9-10 C, bicyclic>  
(opt. substd.) / CH<sub>2</sub>Ph (opt. substd.) /  
CH<sub>2</sub>CH<sub>2</sub>Ph (opt. substd.) / heteroaryl <containing up to 10  
atoms, 1-4 heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms), 1 or more C,  
attached through 1 or more C, mono- or bicyclic>  
(opt. substd. by 1 or more G4) / 65 /

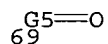
heterocycle <containing 2 heteroatoms, 1 N, 1 O,  
non-aromatic, saturated, 5- to 6-membered monocyclic ring>  
(opt. substd.)



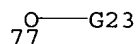
G20 = NH / 60



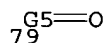
G21 = alkyl <containing 1-10 C> (opt. substd.) /  
cycloalkyl <containing 3-8 C> (opt. substd.) /  
alkenyl <containing 2-10 C> (opt. substd.) /  
alkynyl <containing 2-10 C> (opt. substd.) / CN /  
Ph (opt. substd.) / aryl <containing 9-10 C, bicyclic>  
(opt. substd.) / CH<sub>2</sub>Ph (opt. substd.) /  
CH<sub>2</sub>CH<sub>2</sub>Ph (opt. substd.) / heteroaryl <containing up to 10  
atoms, 1-4 heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms), 1 or more C,  
attached through 1 or more C, mono- or bicyclic>  
(opt. substd. by 1 or more G4) / 69 /  
heterocycle <containing 2 heteroatoms, 1 N, 1 O,  
non-aromatic, saturated, 5- to 6-membered monocyclic ring>  
(opt. substd.)



G22 = OH / 77

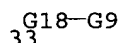
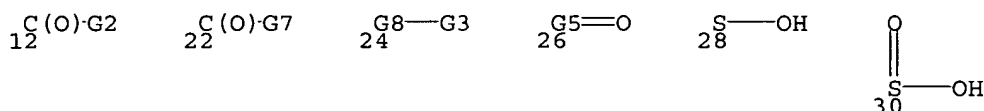


G23 = alkyl <containing 1-10 C> (opt. substd.) /  
cycloalkyl <containing 3-8 C> (opt. substd.) /  
alkenyl <containing 2-10 C> (opt. substd.) /  
alkynyl <containing 2-10 C> (opt. substd.) /  
Ph (opt. substd.) / aryl <containing 9-10 C, bicyclic>  
(opt. substd.) / heteroaryl <containing up to 10 atoms,  
1-4 heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms), 1 or more C,  
attached through 1 or more C, mono- or bicyclic>  
(opt. substd. by 1 or more G4) / 79 /  
(Specifically claimed: CHPh<sub>2</sub>)

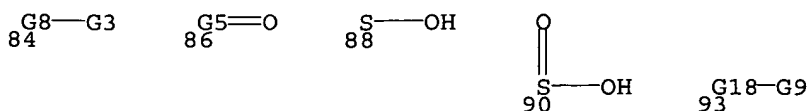


G24 = H / alkyl <containing 1-10 C> (opt. substd.) /  
cycloalkyl <containing 3-8 C> (opt. substd.) /  
alkenyl <containing 2-10 C> (opt. substd.) /  
alkynyl <containing 2-10 C> (opt. substd.) / 12 / 22 / CN /  
OH / 24 / Ph (opt. substd.) / aryl <containing 9-10 C,

bicyclic> (opt. substd.) / heteroaryl <containing up to 10 atoms, 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), 1 or more C, attached through 1 or more C, mono- or bicyclic> (opt. substd. by 1 or more G4) / 26 /  
 heterocycle <containing 2 heteroatoms, 1 N, 1 O, non-aromatic, saturated, 5- to 6-membered monocyclic ring> (opt. substd.) / SH / 28 / 30 / NH2 / 33 /  
 heterocycle <containing 1-4 heteroatoms, 1 or more N (no other heteroatoms), attached through 1 or more N, aromatic, 2 double bonds, 5-membered monocyclic ring> (opt. substd.) /  
 heterocycle <containing 1-2 heteroatoms, 1 N, up to 1 O (no other heteroatoms), attached through 1 or more N, non-aromatic, saturated, 5- to 6-membered monocyclic ring> (opt. substd.) /  
 heterocycle <containing 1 heteroatom, 1 N, 8 C, attached through 1 or more N, aromatic, 1 double bond, 6 normalized bonds, bicyclic, (1) 5-membered ring, (1) 6-membered ring> (opt. substd.) / N3 / F / Cl / Br / I



G25 = H / cycloalkyl <containing 3-8 C> (opt. substd.) / OH / 84 / Ph (opt. substd.) / aryl <containing 9-10 C, bicyclic> (opt. substd.) / heteroaryl <containing up to 10 atoms, 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), 1 or more C, attached through 1 or more C, mono- or bicyclic> (opt. substd. by 1 or more G4) / 86 /  
 heterocycle <containing 2 heteroatoms, 1 N, 1 O, non-aromatic, saturated, 5- to 6-membered monocyclic ring> (opt. substd.) / SH / 88 / 90 / NH2 / 93 /  
 heterocycle <containing 1-4 heteroatoms, 1 or more N (no other heteroatoms), attached through 1 or more N, aromatic, 2 double bonds, 5-membered monocyclic ring> (opt. substd.) /  
 heterocycle <containing 1-2 heteroatoms, 1 N, up to 1 O (no other heteroatoms), attached through 1 or more N, non-aromatic, saturated, 5- to 6-membered monocyclic ring> (opt. substd.) /  
 heterocycle <containing 1 heteroatom, 1 N, 8 C, attached through 1 or more N, aromatic, 1 double bond, 6 normalized bonds, bicyclic, (1) 5-membered ring, (1) 6-membered ring> (opt. substd.) / N3 / F / Cl / Br / I



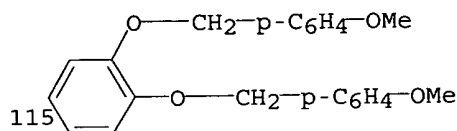
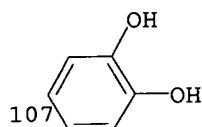
G26 = alkyl <containing 1-10 C> (opt. substd.) /  
 alkenyl <containing 2-10 C> (opt. substd.) /  
 alkynyl <containing 2-10 C> (opt. substd.) / 96 / 98 / CN

$\text{C(=O)-G2}$   
 96

$\text{C(=O)-G7}$   
 98

G27 = H / Ph / OPh / Cl / pyridyl / triazolyl /  
 imidazolyl / 103 / 107 / 115

$\text{S-G28}$   
 103



G28 = tetrazolyl (opt. substd. by G29)  
 G29 = alkyl <containing 1-6 C> / Ph /  
 aryl <containing 9-10 C, bicyclic> / Me  
 G30 = alkyl <containing 1-10 C> (opt. substd.) /  
 alkenyl <containing 2-10 C> (opt. substd.) /  
 alkynyl <containing 2-10 C> (opt. substd.) / 134 / CN

$\text{C(=O)-G7}$   
 134

Derivative: or pharmaceutically acceptable salts  
 Patent location: claim 1

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 99 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 130:223599 MARPAT  
 TITLE: Preparation of factor VII fragments and analogs for  
 treatment of blood clotting disorders  
 INVENTOR(S): Sakariassen, Kjell Steinar; Orning, Lars; Fischer,  
 Peter Martin  
 PATENT ASSIGNEE(S): Nycomed Imaging As, Norway  
 SOURCE: PCT Int. Appl., 46 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9913063	A1	19990318	WO 1998-GB2701	19980908
W: JP, NO, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				

PRIORITY APPLN. INFO.: GB 1997-19162 19970909  
 US 1997-61979P 19971016

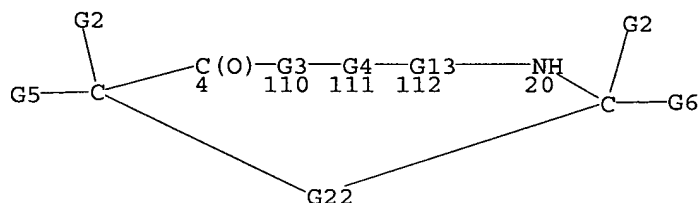
AB The invention provides a compound which is capable of interacting with the  
 internal receptor in the catalytic domain of blood coagulation factor VII

defined by the residues Leu263, Pro264, Glu265, Phe268, Ser269, Tyr357 and Arg353 or the ligand defined by residues Cys98-Cys102 of the EGF-2 domain of factor VII to prevent the formation of a functional factor VIIa/tissue factor complex, with the exclusion of the peptide from amino acids 82-128 of factor VII and functional equivalent thereof in which amino acids in the sequence are modified or absent, and disulfide cyclo[H-Cys-Glu-Gln-Tyr-Cys-OH]. A variety of linear, disulfide-bridged, and lactam-bridged peptides R1-Vaa-Waa-Xaa-Yaa-Zaa-R2 and I-V [one of Waa, Xaa, Yaa = aromatic amino acid residue, and the others are amino acid residues containing an ionizable group at physiol. pH or neutral and hydrophobic amino acid residues; Saa = thiol-containing amino acid residue; Vaa, Zaa = hydrophobic amino acid residue; Zaa, Vaa form lactam ring in III and IV; R1 = H, Ac, R6-Gly, R6-Gly-Gly, R6-Asn-Gly-Gly, R6-Dab-Gly-Gly, pGlu-Gly-Gly, HO2CCH2CH2CO-Gly-Gly, H2NCOCH2CH2CO-Gly-Gly; R2 = OH, NH2, Ser-R7, Ser-Asp-R7, Ala-Asp-R7, Ser-Abu-R7, Ser-Lys-R7, Ser-Dab-R7, Ser-Ile-R7; R6 = H, Ac; R7 = OH, NH2; R3 = H, Me; R4 = H, Me, NH2, NHAc, NHR1; R5 = H, Me, CO2H, CO2Me, CONH2, COR2; A = (un)saturated C1-6 alkyl optionally interrupted by Ph or heteroatom N, O, S; n = 1-2; Dab = 2,4-diaminobutyric acid; Abu = 2-aminobutyric acid] were prepared by solid-phase methods and tested for inhibition of factor VII function in a two-stage chromogenic assay. Thus, linear peptide H-Asn-Gly-Gly-Abu-Glu-Gln-Tyr-Abu-Ser-Lys-OH, prepared by standard solid-phase methods using 9-fluorenylmethoxycarbonyl

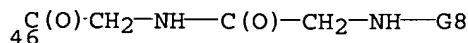
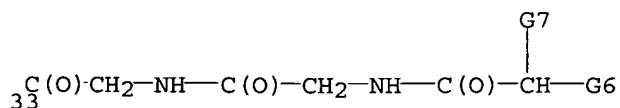
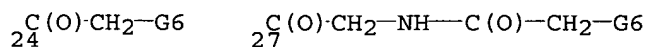
(Fmoc)

N $\alpha$ -protection on a p-alkoxybenzyl alc. resin, inhibited factor VII with IC50 = 3  $\mu$ M.

#### MSTR 4

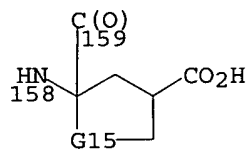
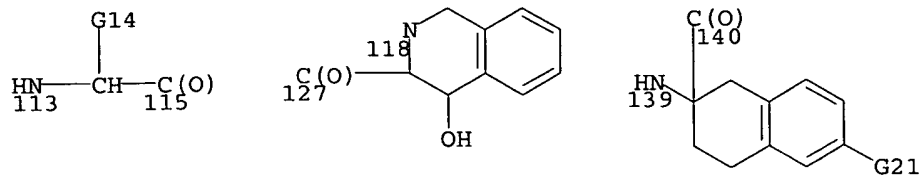


G1 = 24 / 27 / 33 / 46

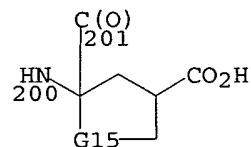
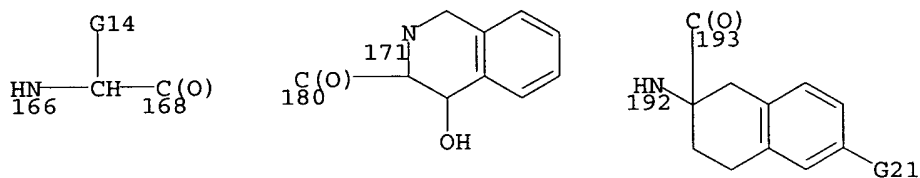


G2 = H / Me

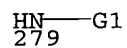
G3 = 113-4 115-111 / (Specifically claimed: 118-4 127-111 / 139-4 140-111 / 158-4 159-111 )



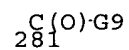
G4 = 166-110 168-112 / (Specifically claimed: 171-110  
180-112 / 192-110 193-112 / 200-110 201-112 )



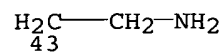
G5 = H / Me / NH<sub>2</sub> / NHCOMe / 279



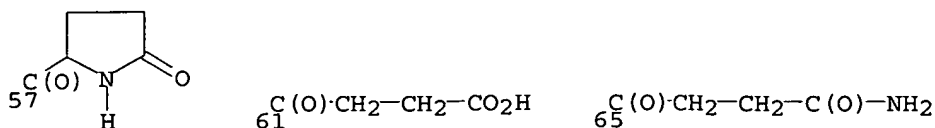
G6 = H / Me / CO<sub>2</sub>H / CO<sub>2</sub>Me / CONH<sub>2</sub> / 281



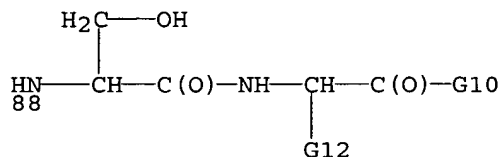
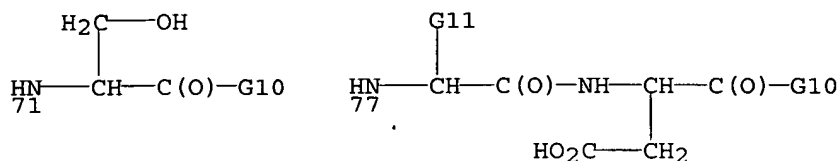
G7 = CH<sub>2</sub>CONH<sub>2</sub> / 43



G8 = 57 / 61 / 65



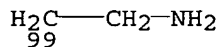
G9 = 71 / 77 / 88



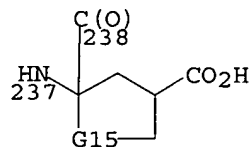
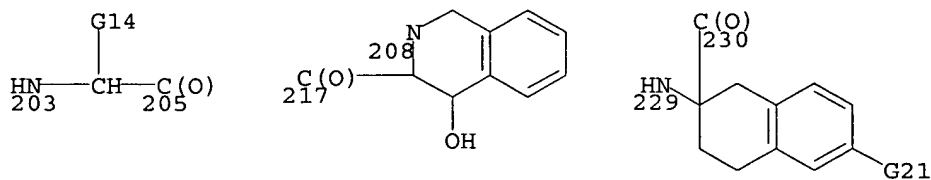
G10 = OH / NH2

G11 = CH2OH / Me

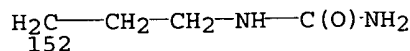
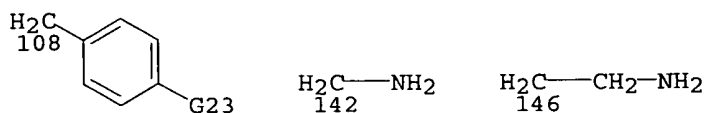
G12 = Et / CH2CH2CH2CH2NH2 / 99 / Bu-s



G13 = 203-111 205-20 / (Specifically claimed: 208-111 217-20 / 229-111 230-20 / 237-111 238-20 )



G14 = R <"aromatic, ionizable, neutral or hydrophobic amino acid side chain"> /  
 (Specifically claimed: CH2C6H4OH-p / 108 / CH2Ph /  
 CH2CH2CO2H / CH2CO2H / 142 / 146 / 152 / CH2CH2CH2NH2 /  
 CH2CH2CH2CH2NH2 / CH2CH2CH2NHC(NH)NH2 / CH2CH2CONH2 /  
 CH2CONH2 / CH2OH / CH(OH)Me / Bu-i / Bu-n)



G15 = (1-2) CH<sub>2</sub>

G21 = OH / OMe

G22 = carbon chain <containing 1-6 C> (opt. substd.)

G23 = NH<sub>2</sub> / OMe

Patent location: claim 3

Note: substitution is restricted

Note: phenyl or heteroatom interruptions in G22 also claimed

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 100 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 130:223598 MARPAT

TITLE: Preparation of factor VII fragments and analogs for treatment of blood clotting disorders

INVENTOR(S): Sakariassen, Kjell Steinar; Fischer, Peter Martin

PATENT ASSIGNEE(S): Nycomed Imaging As, Norway

SOURCE: PCT Int. Appl., 49 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

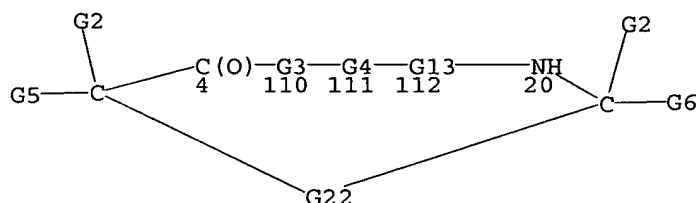
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9913062	A1	19990318	WO 1998-GB2700	19980908
W: JP, NO, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				

PRIORITY APPLN. INFO.: GB 1997-19157 19970909  
US 1997-61980P 19971016

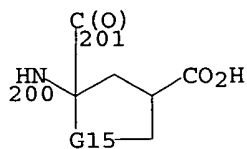
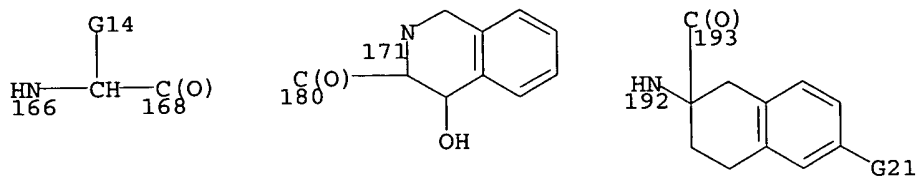
AB This invention provides a compound which is capable of interacting with the internal receptor in the catalytic domain of blood-coagulation factor IXa or factor X defined by the residues Ile290, Ala291, Asp292, Tyr293, Thr294, Glu374, and Phe378 in factor IXa and Leu300, Pro301, Glu302, Trp305, Ala306, Lys385 and Phe389 in factor Xa or the ligand defined by residues Cys95 to Cys99 in factor IXa or Cys96 to Cys100 in factor Xa to prevent the formation of a functional factor VIIIfa/factor IXa complex or factor Xa/factor V complex, resp. A variety of linear, disulfide-bridged, and lactam-bridged peptides R1-Vaa-Waa-Xaa-Yaa-Zaa-R2 and I-V [one of Waa, Xaa, Yaa = aromatic amino acid residue, and the others are amino acid residues containing an ionizable group at physiol. pH or neutral and hydrophobic amino acid residues; Saa = thiol-containing amino acid residue; Vaa, Zaa = hydrophobic amino acid residue; Zaa, Vaa form lactam ring in III and IV; R1 = H, Ac, R6-Gly, R6-Gly-Gly, R6-Asn-Gly-Gly, R6-Dab-Gly-Gly, pGlu-Gly-Gly, HO2CCH2CH2CO-Gly-Gly, H2NCOCH2CH2CO-Gly-Gly;



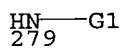
R2 = OH, NH<sub>2</sub>, Ser-R7, Ser-Asp-R7, Ala-Asp-R7, Ser-Abu-R7, Ser-Lys-R7, Ser-Dab-R7, Ser-Ile-R7; R6 = H, Ac; R7 = OH, NH<sub>2</sub>; R3 = H, Me; R4 = H, Me, NH<sub>2</sub>, NHAc, NHR1; R5 = H, Me, CO<sub>2</sub>H, CO<sub>2</sub>Me, CONH<sub>2</sub>, COR2; A = (un)saturated C1-6 alkyl optionally interrupted by Ph or heteroatom N, O, S; n = 1-2; Dab = 2,4-diaminobutyric acid; Abu = 2-aminobutyric acid] were prepared by solid-phase methods and tested for inhibition of factor VII function in a two-stage chromogenic assay. Thus, linear peptide H-Asn-Gly-Gly-Abu-Glu-Gln-Tyr-Abu-Ser-Lys-OH, prepared by standard solid-phase methods using 9-fluorenylmethoxycarbonyl (Fmoc) N $\alpha$ -protection on a p-alkoxybenzyl alc. resin, inhibited factor VII with IC<sub>50</sub> = 3  $\mu$ M.

**MSTR 4**

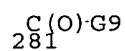
G4 = 166-110 168-112 / (Specifically claimed: 171-110  
180-112 / 192-110 193-112 / 200-110 201-112 )



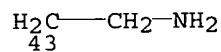
G5 = H / Me / NH<sub>2</sub> / NHCOMe / 279



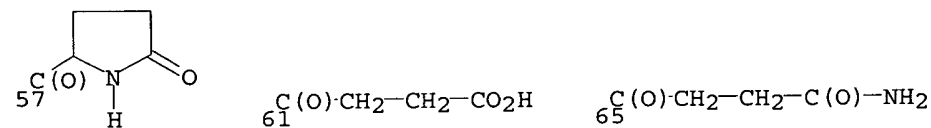
G6 = H / Me / CO<sub>2</sub>H / CO<sub>2</sub>Me / CONH<sub>2</sub> / 281



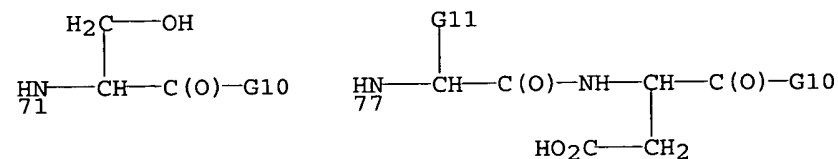
G7 = CH<sub>2</sub>CONH<sub>2</sub> / 43

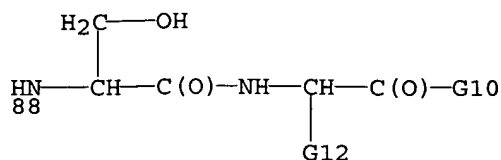
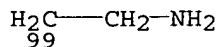


G8 = 57 / 61 / 65

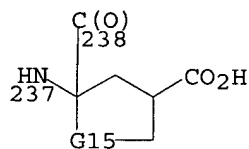
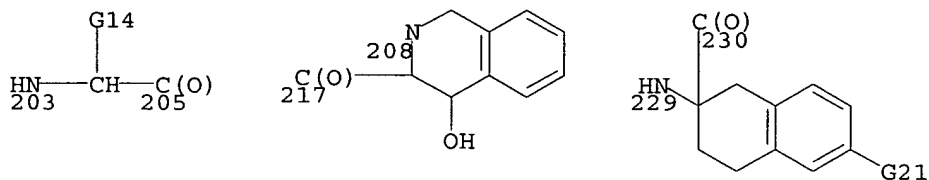


G9 = 71 / 77 / 88

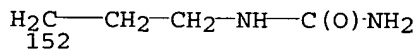
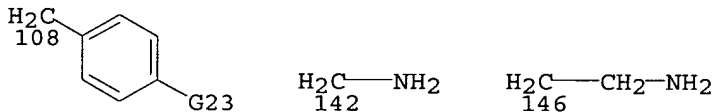


G10 = OH / NH<sub>2</sub>G11 = CH<sub>2</sub>OH / MeG12 = Et / CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub> / 99 / Bu-s

G13 = 203-111 205-20 / (Specifically claimed: 208-111  
217-20 / 229-111 230-20 / 237-111 238-20 )



G14 = R <"aromatic, ionizable,  
neutral or hydrophobic amino acid side chain"> /  
(Specifically claimed: CH<sub>2</sub>C<sub>6</sub>H<sub>4</sub>OH-p / 108 / CH<sub>2</sub>Ph /  
CH<sub>2</sub>CH<sub>2</sub>CO<sub>2</sub>H / CH<sub>2</sub>CO<sub>2</sub>H / 142 / 146 / 152 / CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub> /  
CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub> / CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>NHC(NH)NH<sub>2</sub> / CH<sub>2</sub>CH<sub>2</sub>CONH<sub>2</sub> /  
CH<sub>2</sub>CONH<sub>2</sub> / CH<sub>2</sub>OH / CH(OH)Me / Bu-i / Bu-n)

G15 = (1-2) CH<sub>2</sub>

G21 = OH / OMe

G22 = carbon chain &lt;containing 1-6 C&gt; (opt. substd.)

G23 = NH<sub>2</sub> / OMe

Patent location:

claim 3

Note:

substitution is restricted

Note: phenyl or heteroatom interruptions in G22 also claimed

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 101 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 130:223587 MARPAT  
 TITLE: 1-amino-7-isoquinoline derivatives as serine protease inhibitors  
 INVENTOR(S): Liebeschuetz, John Walter; Wylie, William Alexander; Waszkowycz, Bohdan; Murray, Christopher William; Rimmer, Andrew David; Welsh, Pauline Mary; Jones, Stuart Donald; Roscoe, Jonathan Michael Ernest; Young, Stephen Clinton; Morgan, Phillip John; Camp, Nicholas Paul; Crew, Andrew Philip Austin  
 PATENT ASSIGNEE(S): Proteus Molecular Design Ltd., UK  
 SOURCE: PCT Int. Appl., 89 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 13  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9911657	A1	19990311	WO 1998-GB2600	19980828
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9888753	A1	19990322	AU 1998-88753	19980828
EP 1012166	A1	20000628	EP 1998-940425	19980828
EP 1012166	B1	20031029		
R: CH, DE, ES, FR, GB, IT, LI, NL				
US 6262069	B1	20010717	US 2000-485677	20000225
US 2002040144	A1	20020404	US 2001-865418	20010529
US 6420438	B1	20020716	US 2000-865418	20010529

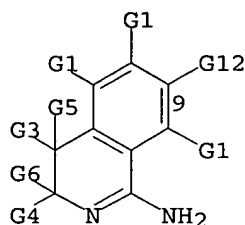
PRIORITY APPLN. INFO.:

GB 1997-18392	19970829
GB 1998-3173	19980213
WO 1998-GB2600	19980828
US 2000-485677	20000225

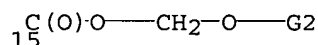
AB Aminoisoquinoline amino acid derivs. I [R1 = H, halo, cyano, nitro, hydroxy, amino, alkoxy, alkyl, aminoalkyl, hydroxyalkyl, thiol, alkylthio, aminosulfonyl, alkoxyalkyl, alkoxycarbonyl, acyloxymethoxycarbonyl or alkylamino (optionally substituted); R2 = H, halo, Me, amino, hydroxy, or oxo; and R is X-X-Y(R7)-L-Lp(D)n, where each X independently is a C, N, O or S atom or a CO, CR1, CR12 or NR1 group; Y is a nitrogen atom or a CR1 group or Y and L taken together form a cyclic group; R7 is a lipophilic group selected from alkyl, alkenyl, mono- or bi-cycloalkyl, aryl, heteroaryl, mono- or bicycloalkylalkyl, mono- or bicycloalkylalkenyl, aralkyl, heteroaryl-alkyl, arylalkenyl, heteroarylalkenyl, all optionally substituted by a group R1; L is an organic linker group containing 1 to 5 backbone atoms selected from C, N, O and S, or a branched alkyl or cyclic group; Lp is a lipophilic organic group selected from alkyl, heterocyclic, alkenyl, alkaryl, cycloalkyl, polycycloalkyl, cycloalkenyl, aryl, aralkyl

or haloalkyl group or a combination of two or more such groups optionally substituted by one or more of oxa, thia, aza or R1 groups; D is a hydrogen bond donor group; and n is 0, 1, or 2] or their 3,4-dihydro derivs. were prepared as serine protease inhibitors. Thus, 1-aminoisoquinolin-7-oyl-D-phenylglycine-4-methoxybenzylamide was prepared by amidation of Boc-D-phenylglycine with 4-methylbenzylamine, followed by deprotection and coupling with 1-aminoisoquinoline-7-carboxylic acid trifluoroacetate.

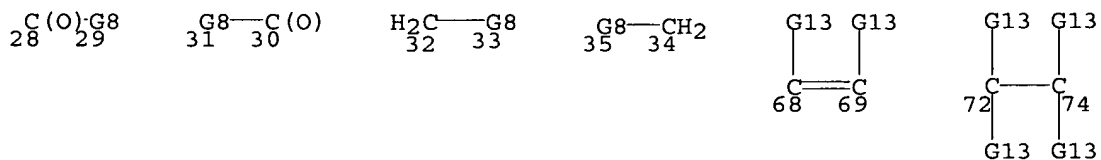
## MSTR 1



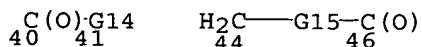
G1 = 2 or more H / halo / CN / NO2 / OH / NH2 / alkoxy / alkyl / alkyl (substd. by NH2) / alkyl (substd. by OH) / SH / alkylthio / SO2NH2 / alkyl (substd. by alkoxy) / alkoxycarbonyl / 15 / alkylamino / R <"optionally substituted group">



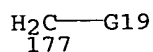
G2 = acyl  
 G3 = H / halo / Me / NH2 / OH  
 G4 = H / halo / Me / NH2 / OH  
 G5 = H  
 G6 = H  
 G7 = R <containing 1 or more C, zero or more N, zero or more O, zero or more S> / (Specifically claimed: 68-9 69-25 / 28-9 29-25 / 31-9 30-25 / 32-9 33-25 / 35-9 34-25 / 72-9 74-25 )



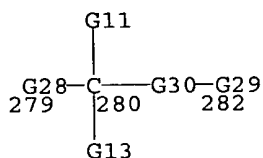
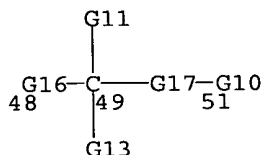
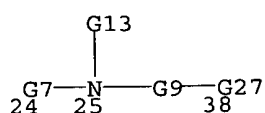
G8 = NH (opt. substd.) / O  
 G9 = R <"organic linker group"> / (Specifically claimed: 40-25 41-38 / C(O) / 44-25 46-38 )



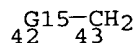
G10 = alkyl (opt. substd. by 1 or more aryl) / alkenyl / alkyl (substd. by 1 or more halo) / (Specifically claimed: 177 / CH2CH2Ph)



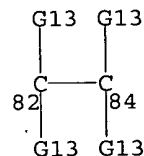
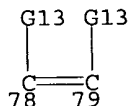
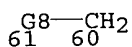
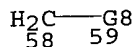
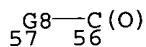
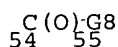
G11 = H / R / aryl (opt. substd.) /  
heteroaryl (opt. substd.) / cyclohexyl (opt. substd.) / Ph /  
naphthyl  
G12 = 24 / 48 / 279



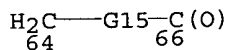
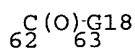
G13 = H / R  
G14 = NH (opt. substd.) / 42-40 43-38



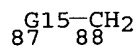
G15 = NH (opt. substd.)  
G16 = R <containing 1 or more C, zero or more N,  
zero or more O, zero or more S> /  
(Specifically claimed: 78-9 79-49 / 54-9 55-49 /  
57-9 56-49 / 58-9 59-49 / 61-9 60-49 / 82-9 84-49 )



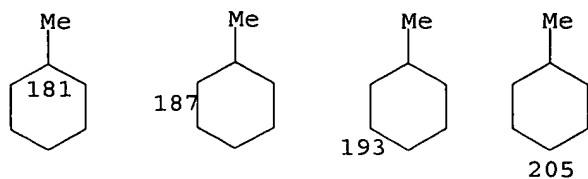
G17 = R <"organic linker group"> /  
(Specifically claimed: 62-49 63-51 / C(O) / 64-49 66-51 )



G18 = NH (opt. substd.) / 87-62 88-51



G19 = 181 / 187 / 193 / 205 / tolyl



G20 = H / (1) 217

G21-Ph  
217

G21 = CH<sub>2</sub> / C(O)  
G22 = H / (1) 255

G21-Ph  
255

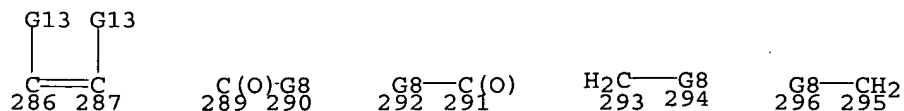
G23 = H / (1) 257

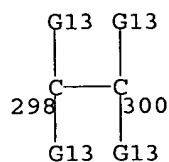
G21-Ph  
257

G24 = H / (1) 259

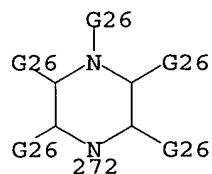
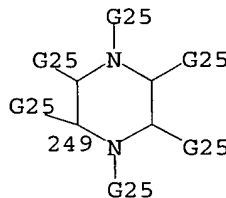
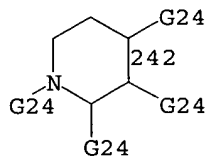
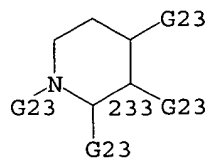
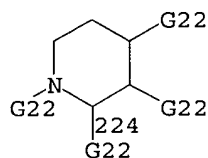
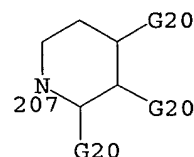
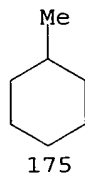
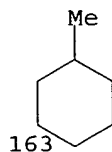
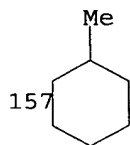
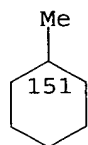
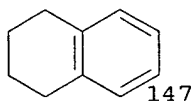
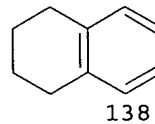
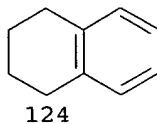
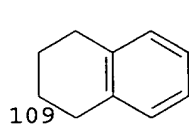
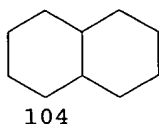
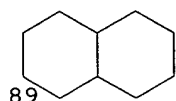
G21-Ph  
259

G25 = H / (1) Ph  
G26 = H / (1) Ph  
G27 = alkyl (opt. substd. by 1 or more aryl) /  
heterocycle / alkenyl / aryl (opt. substd. by alkyl) /  
cycloalkyl <mono- or polycyclic> / cycloalkenyl /  
alkyl (substd. by 1 or more halo) / R /  
(Specifically claimed: cyclohexyl (substd. by Me))  
G28 = R <containing 1 or more C, zero or more N,  
zero or more O, zero or more S> /  
(Specifically claimed: 286-9 287-280 / 289-9 290-280 /  
292-9 291-280 / 293-9 294-280 / 296-9 295-280 /  
298-9 300-280 )

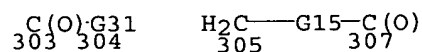




G29 = heterocycle / aryl (opt. substd. by alkyl) /  
 cycloalkyl <mono- or polycyclic> / cycloalkenyl / R /  
 (Specifically claimed: Ph / naphthyl / adamantyl / 89 / 104 /  
 109 / 124 / 138 / 147 / 151 / 157 / 163 / 175 / 207 / 224 /  
 233 / 242 / 249 / 272)



G30 = R <"organic linker group"> /  
 (Specifically claimed: 303-280 304-282 / C(O) /  
 305-280 307-282 )



G31 = NH (opt. substd.) / 308-303 309-282



G15-CH<sub>2</sub>  
308 309

G3 +G5 = O

G4 +G6 = O

G5 +G6 = bond

Derivative: or physiologically tolerable salts

Patent location: claim 1

Note: substitution is restricted

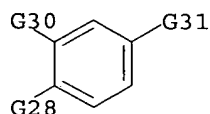
REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 102 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 130:223585 MARPAT  
TITLE: Preparation of substituted phenylalanine derivatives  
as protein tyrosine phosphatase inhibitors  
INVENTOR(S): Larsen, Scott D.; May, Paul D.; Bleasdale, John;  
Liljebris, Charlotta; Schostarez, Heinrich Josef;  
Barf, Tjeerd  
PATENT ASSIGNEE(S): Pharmacia & Upjohn Company, USA  
SOURCE: PCT Int. Appl., 182 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 3  
PATENT INFORMATION:

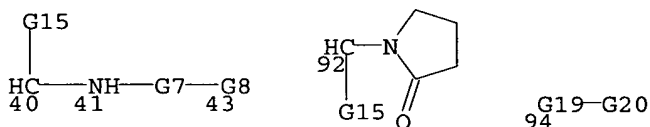
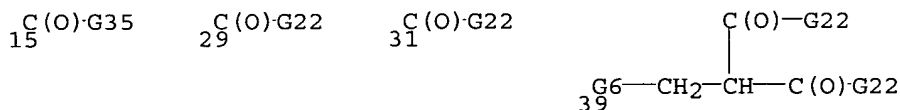
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9911606	A2	19990311	WO 1998-US17327	19980824
WO 9911606	A3	19990708		
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RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2298601	AA	19990311	CA 1998-2298601	19980824
AU 9892010	A1	19990322	AU 1998-92010	19980824
AU 749132	B2	20020620		
EP 1019364	A2	20000719	EP 1998-944476	19980824
EP 1019364	B1	20040609		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2001514245	T2	20010911	JP 2000-508647	19980824
AT 268750	E	20040615	AT 1998-944476	19980824
PRIORITY APPLN. INFO.: US 1997-57730P 19970828				
WO 1998-US17327 19980824				
AB The present invention comprises title compds. I and II [G1 = R2, NR8R4; G2 = H, CONHR3, CH2OH, CH:CHR3; R1 = OSO3H, OCH(CO2R5)2, OCH2CO2R5, OCH(CO2R5)CH2CO2R5, O(CO2R5):CHCO2R5, CH2CH(CO2R5)2, CH:C(CO2R5)2, OCH2CONHOH, N(CH2CO2R5)2, OCHFCO2R5; R2 = C1-10 alkyl, C3-8 cycloalkyl, C0-6 alkylphenyl each substituted with 0-2 CO2R5 groups or 0-1 CONH2 groups, CHR7NHXR6, group Q; R3 = (un)substituted C1-12 alkyl, C1-4 alkyl-C3-6 cycloalkyl, C2-12 alkenyl, C3-12 alkynyl, (un)substituted C0-10				

alkyl(G3)n, CH(CONH2)-C1-12 alkyl; R4 = H, C1-18 alkyl, alkenyl, C0-6 alkyl-G3; R5 = H, C1-10 alkyl, C1-5 alkylphenyl; R6 = C1-10 alkyl, substituted C1-6 alkyl; R7 = H, substituted C1-6 alkyl; R8 = C0-6 alkyl-G3, CHR7CO2R5, CHR7CH2CO2R5, CHR7CONHCH2COR5; G3 = (un)substituted Ph, naphthyl, heterocyclyl; R10 = H, CO2R5, CONHOH, 5-tetrazolyl, F, OCH2CO2R5; R11 = H, Me; X = CO, SO2, CO2; n = 0-3; with provisos] and pharmaceutically acceptable salts thereof, as small mol. weight, non-peptidic inhibitors of protein tyrosine phosphatase 1 (PTP1) which are useful for the treatment and/or prevention of non-insulin dependent diabetes mellitus (NIDDM). Thus, O-alkylation of N-tert-butoxycarbonyltyramine with di-Et chloromalonate, followed by acidic deprotection, amidation with 4-benzoyl-N-tert-butoxycarbonyl-L-phenylalanine, acidic deprotection, and amidation with succinic anhydride, gave desired title compound III (PNU 176073). III showed 60% inhibition of protein tyrosine phosphatase 1B at a concentration of 10  $\mu$ M.

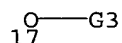
## MSTR 1



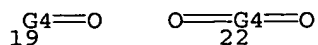
G1 = alkyl <containing 1-10 C>  
 (opt. substd. by (1-2) 15) / cycloalkyl <containing 3-8 C>  
 (opt. substd. by (1) 29) / Ph (opt. substd. by (1-2) 31) /  
 39 / 40 / 92 / 94



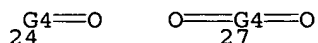
G2 = OH / 17



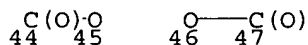
G3 = alkyl <containing 1-18 C> /  
 alkenyl <containing up to 18 C> / Ph (opt. substd.) /  
 naphthyl / heterocycle <containing 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), mono- or bicyclic,  
 including 5- or 6-membered rings> (opt. substd.) / 19 / 22 /  
 alkyl <containing 1-6 C> (substd. by G5)



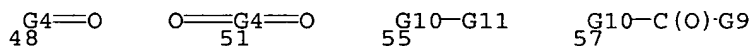
- G4 = heterocycle <containing 1-4 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), mono- or bicyclic,  
including 5- or 6-membered rings> (opt. substd.)
- G5 = Ph (opt. substd.) / naphthyl /  
heterocycle <containing 1-4 heteroatoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms),  
mono- or bicyclic, including 5- or 6-membered rings>  
(opt. substd.) / 24 / 27



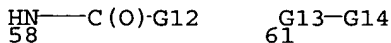
- G6 = phenylene
- G7 = C(O) / SO<sub>2</sub> / 44-41 45-43 / 46-41 47-43



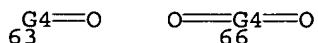
- G8 = alkyl <containing 1-10 C> / Ph (opt. substd.) /  
naphthyl / heterocycle <containing 1-4 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), mono- or bicyclic,  
including 5- or 6-membered rings> (opt. substd.) / 48 / 51 /  
alkyl <containing 1-6 C> (substd. by G5) / 57 / 55



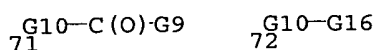
- G9 = NH<sub>2</sub> / OH / alkoxy <containing 1-10 C> /  
alkoxy <containing 1-5 C> (substd. by Ph)
- G10 = alkylene <containing 1-6 C>
- G11 = 58 / OH / alkoxy <containing 1-10 C> /  
alkoxy <containing 1-5 C> (substd. by Ph) / NHSO<sub>2</sub>Me / 61



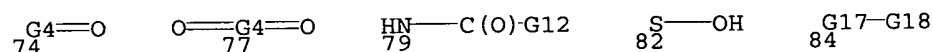
- G12 = OH / alkoxy <containing 1-10 C> /  
alkoxy <containing 1-5 C> (substd. by Ph)
- G13 = O / S
- G14 = Ph (opt. substd.) / naphthyl /  
heterocycle <containing 1-4 heteroatoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms),  
mono- or bicyclic, including 5- or 6-membered rings>  
(opt. substd.) / 63 / 66



G15 = H / 71 / 72 / alkyl <containing 1-10 C> /  
cycloalkyl <containing up to 10 C>



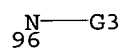
G16 = Ph (opt. substd.) / naphthyl /  
heterocycle <containing 1-4 heteroatoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms),  
mono- or bicyclic, including 5- or 6-membered rings>  
(opt. substd.) / 74 / 77 / 79 / SH / 82 / 84



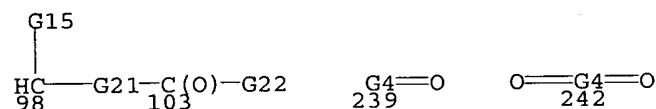
G17 = S / S(O)

G18 = alkyl <containing 1-10 C> /  
alkyl <containing 1-5 C> (substd. by Ph)

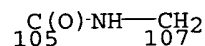
G19 = NH / 96



G20 = Ph (opt. substd.) / naphthyl /  
heterocycle <containing 1-4 heteroatoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms),  
mono- or bicyclic, including 5- or 6-membered rings>  
(opt. substd.) / 239 / 242 / alkyl <containing 1-6 C>  
(substd. by G5) / 98



G21 = bond / CH2 / 105-98 107-103



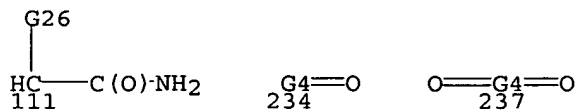
G22 = OH / alkoxy <containing 1-10 C> /  
alkoxy <containing 1-5 C> (substd. by Ph)

G23 = 108 / H / CH2OH / 115

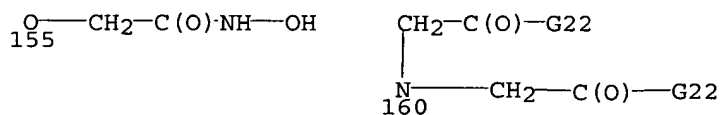
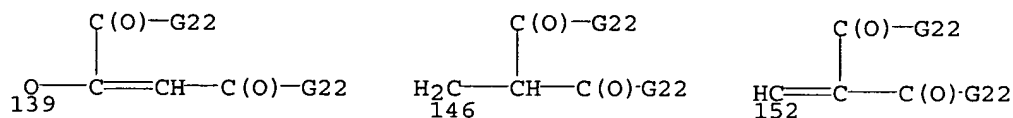
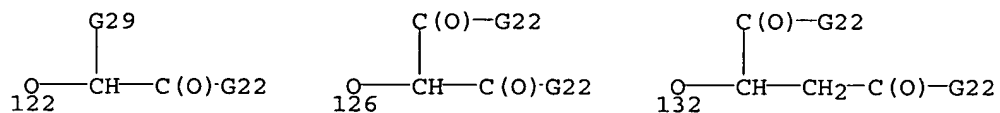


G24 = alkyl <containing 1-12 C> (substd. by G25) /  
alkyl <containing 1-4 C> (substd. by cycloalkyl <containing  
3-6 C>) / alkenyl <containing 2-12 C> /  
alkynyl <containing 3-12 C> / Ph (opt. substd.) / naphthyl /  
heterocycle <containing 1-4 heteroatoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms),  
mono- or bicyclic, including 5- or 6-membered rings>

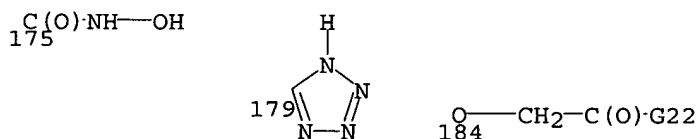
(opt. substd.) / 234 / 237 / 111



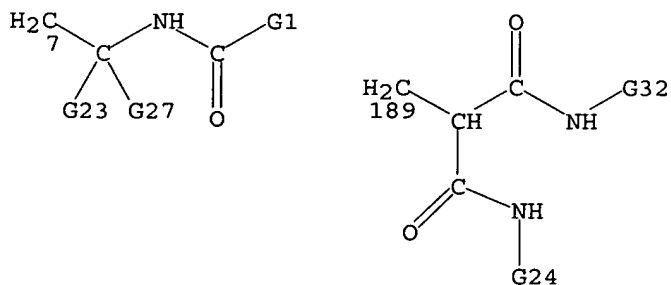
G25 = OH (opt. substd.) / SH (opt. substd.) /  
       NH2 (opt. substd.) / R  
 G26 = alkyl <containing 1-12 C>  
 G27 = H / Me  
 G28 = OSO3H / 122 / 126 / 132 / 139 / 146 / 152 / 155 /  
       160



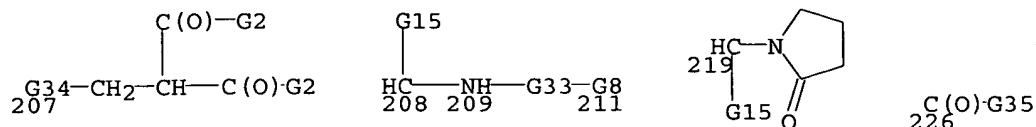
G29 = H / F  
 G30 = H / CO2H / alkoxycarbonyl <containing 1-10 C> /  
       alkoxycarbonyl <containing 1-5 C> (substd. by Ph) / 175 /  
       179 / F / 184



G31 = 7 / 189



G32 = alkyl <containing 1-10 C>  
 (opt. substd. by (1-2) 226) / cycloalkyl <containing 3-8 C>  
 (opt. substd. by (1) 228) / Ph (opt. substd. by (1-2) 230) /  
 207 / 208 / 219



G33 = C(O) / SO2 / 221-209 222-211 / 223-209 224-211



G34 = phenylene

G35 = OH / alkoxy <containing 1-10 C> /  
 alkoxy <containing 1-5 C> (substd. by Ph) / NH2

Derivative: or pharmaceutically acceptable salts  
 Patent location: claim 1  
 Note: substitution is restricted

L71 ANSWER 103 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 129:175654 MARPAT

TITLE: Preparation of 2-amino-6-[(phenoxyalkyl)amino]-1,3,5-triazines and analogs as herbicides and plant growth regulators

INVENTOR(S): Zindel, Juergen; Hollander, Jens; Minn, Klemens; Willms, Lothar; Bieringer, Hermann; Rosinger, Christopher

PATENT ASSIGNEE(S): Hoechst Schering AgrEvo G.m.b.H., Germany

SOURCE: Ger. Offen., 44 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

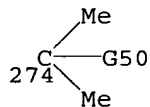
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19704922	A1	19980813	DE 1997-19704922	19970210
CA 2280264	AA	19980813	CA 1998-2280264	19980120
WO 9834925	A1	19980813	WO 1998-EP283	19980120
W: AL, AM, AU, AZ, BA, BB, BG, BR, BY, CA, CN, CU, CZ, EE, GE, GW, HU, ID, IL, IS, JP, KG, KP, KR, KZ, LC, LK, LR, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UZ, VN, YU				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				

AU 9862114	A1	19980826	AU 1998-62114	19980120
AU 749981	B2	20020704		
EP 966450	A1	19991229	EP 1998-904102	19980120
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE, PT, IE, RO				
TR 9901918	T2	20000321	TR 1999-1918	19980120
BR 9807317	A	20000418	BR 1998-7317	19980120
JP 2001511164	T2	20010807	JP 1998-533681	19980120
CN 1126744	B	20031105	CN 1998-802332	19980120
TW 449461	B	20010811	TW 1998-87101656	19980207
ZA 9801018	A	19980811	ZA 1998-1018	19980209
US 2003203820	A1	20031030	US 2003-350738	20030124
US 6645916	B2	20031111		
PRIORITY APPLN. INFO.:			DE 1997-19704922	19970210
			WO 1998-EP283	19980120
			US 1998-20292	19980206
AB Title compds. [I; R = NR4CHR5CHR6ZR7; R1 = (un)substituted alkyl or -Ph; R2-R4 = H, (di)(alkyl)amino, hydrocarbyl(oxy), etc.; NR2R3 = heterocyclyl; R5,R6 = H, halo, cyano, OH, hydrocarbyl(oxy), etc.; R7 = (un)substituted Ph; Z = O, SOO-2, (alkyl)imino, etc.] were prepared as herbicides and plant growth regulators (no data). Thus, I (R1 = CHMe2, R2 = R3 = H) (II; R = Cl) was aminated by H2NCHEtCH2OC6H4(CF3)-3 to give II [R = NHCHEtCH2OC6H4(CF3)-3].				

**MSTR 1**

G51-G10-G12-G37-G28

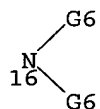
G1 = alkyl <containing 1-6 C>  
 (opt. substd. by 1 or more G2) / Ph (opt. substd.) /  
 (Examples: Pr-i / 274)



G2 = F / Cl / Br / I / OH / CN / NO2 / SCN / 12 /  
 alkenyl <containing 2-4 C> / alkynyl <containing 2-4 C> /  
 Ph (opt. substd.)

G3-G4

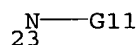
G3 = O / S / S(O) / SO2  
 G4 = alkyl <containing 1-4 C>  
 G5 = 16 / heterocycle <containing 3-6 atoms,  
 1-4 heteroatoms, 1 or more N, zero or more O,  
 zero or more S (no other heteroatoms),  
 attached through 1 or more N> (opt. substd.)



G6 = H / NH<sub>2</sub> / alkylamino <containing 1-6 C> /  
 dialkylamino <each alkyl containing 1-6 C> /  
 hydrocarbyl <containing 1-10 C> (opt. substd.) / 19 /  
 heterocycle <containing 3-9 atoms, 1-3 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.) / 21 /  
 (Examples: CHO / Me)



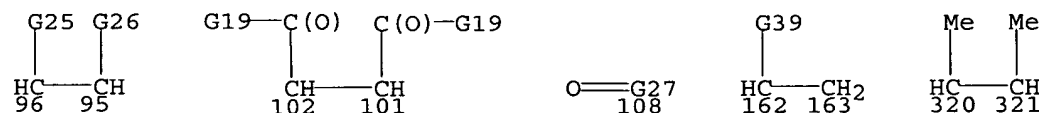
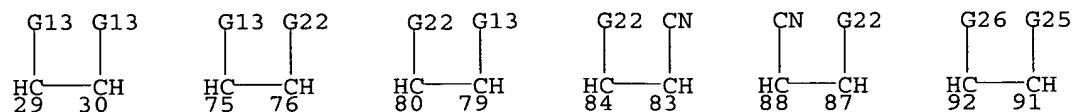
G7 = hydrocarbyl <containing 1-10 C> (opt. substd.)  
 G8 = O / NH  
 G9 = heterocycle <containing 3-9 atoms, 1-3 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.)  
 G10 = NH / 23



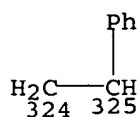
G11 = NH<sub>2</sub> / alkylamino <containing 1-6 C> /  
 dialkylamino <each alkyl containing 1-6 C> /  
 hydrocarbyl <containing 1-10 C> (opt. substd.) / 25 /  
 heterocycle <containing 3-9 atoms, 1-3 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms)> (opt. substd.) / 27 /  
 (Example: Me)



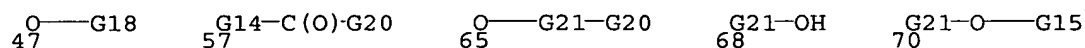
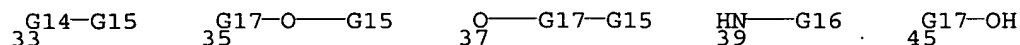
G12 = 29-7 30-9 / 75-7 76-9 / 80-7 79-9 / 84-7 83-9 /  
 88-7 87-9 / 92-7 91-9 / 96-7 95-9 / 102-7 101-9 /  
 cycloalkylene <containing 4-6 C,  
 attached through 2 or more C> (opt. substd. by alkyl  
 <containing 1-4 C>) / 108 / (Examples: 162-7 163-9 /  
 320-7 321-9 / 324-7 325-9 )



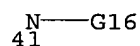




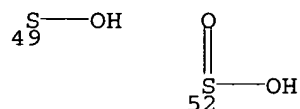
G13 = F / Cl / Br / I / NO2 / SCN / H /  
carbocycle (opt. substd. by G23) /  
heterocycle (opt. substd.) / OH / NH2 / 39 / 33 / 45 / 47 /  
35 / 37 / 57 / 65 / 68 / 70



G14 = O / NH / 41



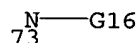
G15 = hydrocarbyl (opt. substd.) /  
heterocycle (opt. substd.) /  
G16 = alkyl <containing 1-6 C> / Ph / CH2Ph /  
cycloalkyl <containing 3-6 C> / CHO /  
alkylcarbonyl <containing 1-5 C> /  
G17 = S / S(O) / SO2  
G18 = SH / 49 / 52



G19 = OH / NH2 / 63 / H / hydrocarbyl (opt. substd.) /  
heterocycle (opt. substd.) / 61



G20 = H / hydrocarbyl (opt. substd.) /  
heterocycle (opt. substd.) /  
G21 = NH / 73



G22 = CN / carbon chain (opt. substd. by G24) / 55

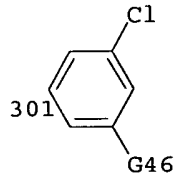
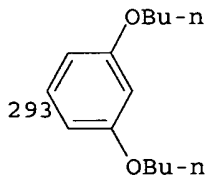
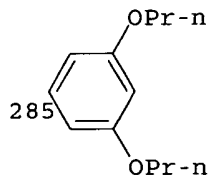
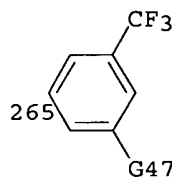
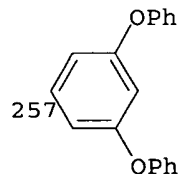
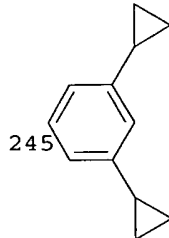
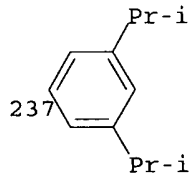
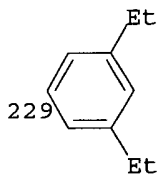
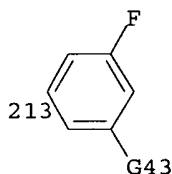
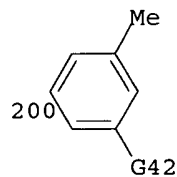
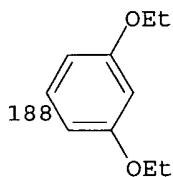
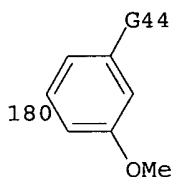
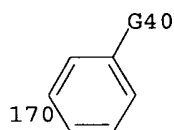
<sup>C</sup>(O)G19  
55

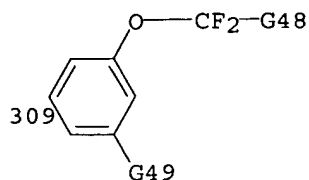
- G23 = carbon chain (opt. substd.) /  
carbocycle (opt. substd.) / R  
G24 = carbocycle (opt. substd.) / R  
G25 = carbon chain (opt. substd. by G24) / 99

<sup>C</sup>(O)G19  
99

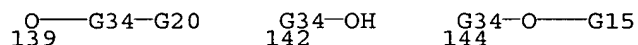
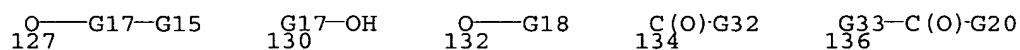
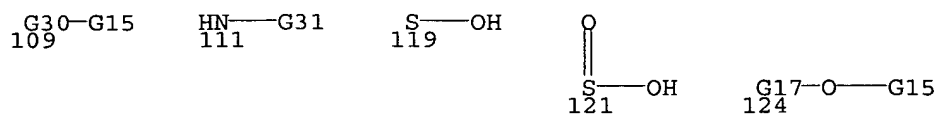
- G26 = carbon chain (opt. substd. by G24)  
G27 = carbocycle <containing 4-8 C,  
attached through 3 or more C, non-aromatic, saturated>  
(opt. substd. by alkyl <containing 1-4 C>)  
G28 = Ph (opt. substd. by 1 or more G29) /  
carbocycle <containing 8-10 C, aromatic,  
6 or more normalized bonds, 2 C fusion atoms, bicyclic,  
(0-1) 4-membered, (0-1) 5-membered,  
(1-2) 6-membered rings only> (opt. substd. by 1 or more G35)  
/ heterocycle <containing 8-10 atoms, 1 or more heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), aromatic,  
6 or more normalized bonds, 2 C fusion atoms, bicyclic,  
(0-1) 4-membered, (0-1) 5-membered,  
(1-2) 6-membered rings only> (opt. substd. by 1 or more G35)  
/ 157 / (Examples: 170 / 180 / 188 / 200 / 213 / 229 / 237 /  
245 / 257 / 265 / 285 / 293 / 301 / 309)

O=G36  
157

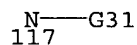




G29 = F / Cl / Br / I / NO<sub>2</sub> / CN / SCN / H /  
 hydrocarbyl (opt. substd.) / heterocycle (opt. substd.) /  
 OH / NH<sub>2</sub> / SH / 111 / 119 / 121 / 109 / 124 / 127 / 130 /  
 132 / 134 / 136 / 139 / 142 / 144



G30 = O / NH / 117 / S / S(O) / SO<sub>2</sub>

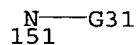


G31 = alkyl <containing 1-6 C> / Ph /  
 cycloalkyl <containing 3-6 C>

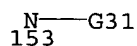
G32 = OH / NH<sub>2</sub> / 147 / H / hydrocarbyl (opt. substd.) /  
 heterocycle (opt. substd.) / 149



G33 = O / NH / 151



G34 = NH / 153

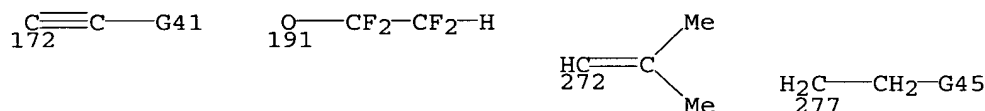


G35 = F / Cl / Br / I / alkyl <containing 1-4 C> / R

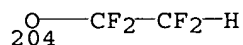
- G36 = carbocycle <containing 8-10 C, aromatic,  
6 or more normalized bonds, 2 C fusion atoms, bicyclic,  
(0-1) 4-membered, (0-1) 5-membered,  
(1-2) 6-membered rings only> (opt. substd. by 1 or more G35)  
/ heterocycle <containing 8-10 atoms, 1 or more heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), aromatic,  
6 or more normalized bonds, 2 C fusion atoms, bicyclic,  
(0-1) 4-membered, (0-1) 5-membered,  
(1-2) 6-membered rings only> (opt. substd. by 1 or more G35)
- G37 = O / S(O) / SO2 / S / NH / 158 / 160



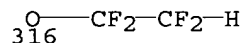
- G38 = alkyl <containing 1-4 C> / (Example: Me)  
G39 = Me / Et / Pr-i / cyclopropyl / Ph / Pr-n  
G40 = Ph / 172 / OMe / OEt / OPh / CF3 / OCF3 / 191 / Me /  
Et / Pr-i / cyclopropyl / CH=CH2 / CH=CHMe / 272 / 277 /  
NMe2 / OPr-n / OBU-n



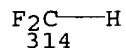
- G41 = H / Me / Ph / Et / Pr-n / Pr-i / cyclopropyl  
G42 = OMe / OEt / OPh / CF3 / OCF3 / 204 / Me / Et /  
Pr-i / cyclopropyl / F / Cl / Br / I / CH=CH2 / ethynyl /  
NH2 / NO2 / OH / OPr-n / OBU-n



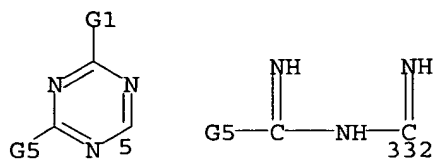
- G43 = OMe / OEt / OPh / CF3 / OCF3 / OPr-n / OBU-n  
G44 = OMe / Cl / Br / I  
G45 = Ph / Pr-i / cyclopropyl  
G46 = OEt / OPr-n / OBU-n / OPh  
G47 = F / Cl / Br / I / OMe / OCF3 / ethynyl / 316



- G48 = F / 314



- G49 = F / Cl / Br / I / OMe / ethynyl  
G50 = F / Cl  
G51 = 5 / 332 / H



Derivative: and salts  
 Patent location: claim 1  
 Note: substitution is restricted  
 Note: oxygen at 161 is free radical  
 Note: also incorporates claim 7, structures III and V

L71 ANSWER 104 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 129:175562 MARPAT  
 TITLE: Tricyclic tetrahydroquinoline derivatives and  
 tricyclic tetrahydroquinoline combinatorial libraries  
 INVENTOR(S): Hayes, Thomas K.; Kiely, John S.  
 PATENT ASSIGNEE(S): Trega Biosciences, Inc., USA  
 SOURCE: PCT Int. Appl., 119 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

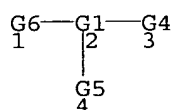
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9834111	A1	19980806	WO 1997-US22206	19971205
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RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5925527	A	19990720	US 1997-795893	19970204
CA 2279980	AA	19980806	CA 1997-2279980	19971205
AU 9855928	A1	19980825	AU 1998-55928	19971205
NZ 337046	A	20000128	NZ 1997-337046	19971205
EP 983507	A1	20000308	EP 1997-952280	19971205
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				

PRIORITY APPLN. INFO.: US 1997-795893 19970204  
 WO 1997-US22206 19971205

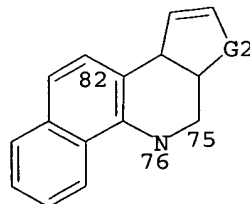
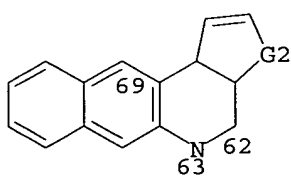
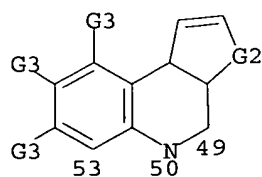
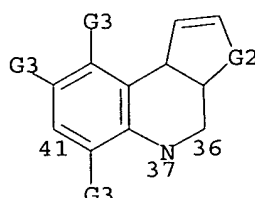
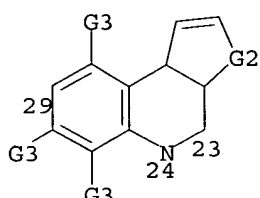
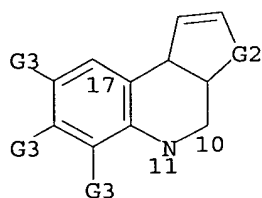
AB The invention relates to novel tricyclic tetrahydroquinoline compds. I, their salts, and combinatorial libraries containing mixts. of two or more such compds. [wherein R1 = bond, (un)substituted alk(en/yn)ylene, cycloalk(en)ylene, phenylene, naphthylene, heterocycle, heteroaryl, amino, CH2CONH, (CH2)pAr(CH2)q; p, q = 0-6 but both cannot be 0; Ar = (un)substituted Ph or heteroaryl; R2, R3, R4 = H, halo, (un)protected OH, cyano, NO2, (un)substituted alk(en/yn)yl, alkoxy, cycloalk(en)yl, heterocyclyl, phenylalkyl, Ph, naphthyl, etc.; R5 = H, (un)substituted alk(en/yn)yl, cycloalk(en)yl, Ph, naphthyl, phenylalkyl, (un)protected CO2H, acyl, heterocyclyl, etc.; R6 = H, (un)substituted alkyl, phenylalkyl, acyl, PhSO2, alkylsulfonyl, alkylaminocarbonyl, PhNHCO; n =

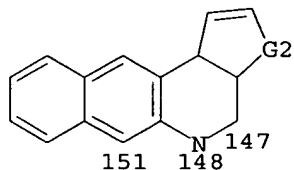
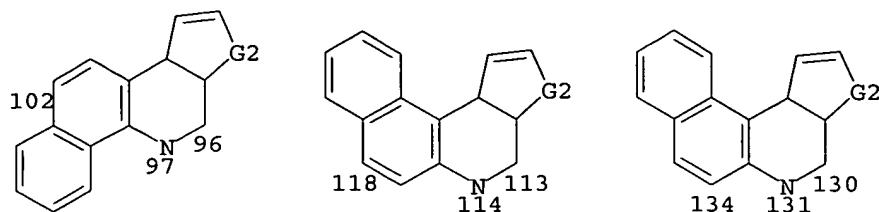
1-3; Y = CO<sub>2</sub>H, OH, SH, NHR<sub>7</sub>, CONHR<sub>7</sub>, CH<sub>2</sub>OH, CH<sub>2</sub>NH<sub>2</sub>, CH<sub>2</sub>NHR<sub>7</sub>; R<sub>7</sub> = H, (un)substituted alkyl, or functionalized resin; R<sub>1</sub> must be present and R<sub>5</sub> ≠ Ph when Y = CO<sub>2</sub>H]. The invention also relates to the generation of such libraries. In 2 examples, libraries of 2774 and approx. 17,000 compds. I were prepared as mixed sublibraries. Data for control compds. (samples of individually known intermediates and products, cleaved from simultaneously processed control resins) are given. For instance, tea-bags of MBHA resin were each coupled with one of 19 aminobenzoic acids, such as 4-aminobenzoic acid. Diagnostic cleavage of each of these resins with HF gave 19 aminobenzamide controls in 34-99% yield. The 19 resins were mixed together and placed in new tea-bags, then condensed with 73 different aldehydes, and finally cyclized with cyclopentadiene. Cleavage of the resin-bound products with HF gave approx. 73 mixts. of 38 compds. (counting sep. enantiomers). Individual control samples of products, such as II [R<sub>5</sub> = H, CH<sub>2</sub>Cl, cyclohexyl, CO<sub>2</sub>H, (un)substituted Ph, etc.], were typically obtained in 50-100% yield by reactions of pure, resin-bound 4-aminobenzoic acid control samples in sibling tea-bags. Potential applications of I (no data) may include use as antibacterials or analgesics.

## MSTR 1A

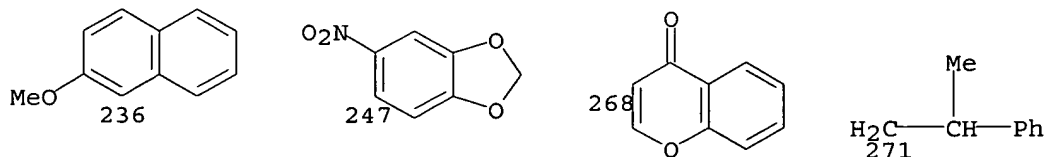
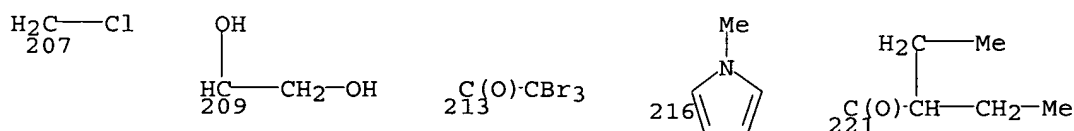


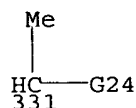
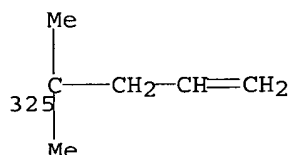
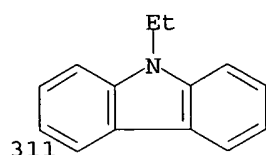
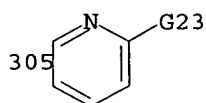
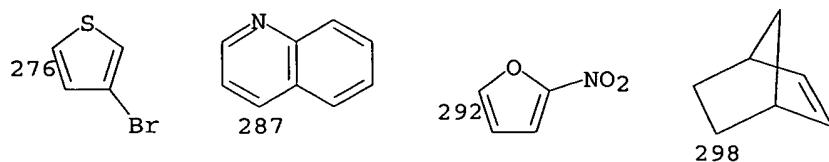
G1 = 17-1 11-4 10-3 / 29-1 24-4 23-3 /  
 41-1 37-4 36-3 / 53-1 50-4 49-3 /  
 (Specifically claimed: 69-1 63-4 62-3 / 82-1 76-4 75-3 /  
 102-1 97-4 96-3 / 118-1 114-4 113-3 / 134-1 131-4 130-3 /  
 151-1 148-4 147-3 )



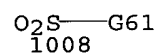
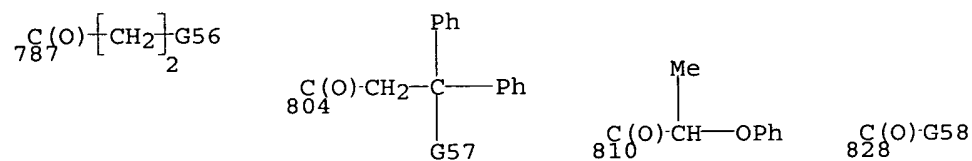
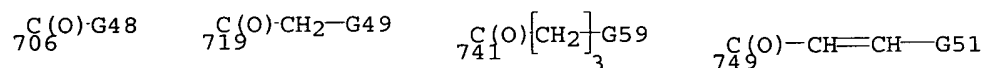


- G2 = (1-3) CH<sub>2</sub>
- G3 = H / R / (Specifically claimed: OH / F / Cl / Br / I / Me / OMe / NO<sub>2</sub>)
- G4 = H / alkyl <containing 1-10 C> (opt. substd.) / alkenyl <containing 2-10 C> (opt. substd.) / alkynyl <containing 2-10 C> (opt. substd.) / cycloalkyl <containing 3-7 C> (opt. substd.) / cycloalkenyl <containing 5-7 C> (opt. substd.) / Ph (opt. substd. by 1 or more G22) / naphthyl (opt. substd.) / alkyl <containing 1-6 C> (substd. by Ph (opt. substd.)) / CO<sub>2</sub>H (opt. substd.) / acyl / heterocycle (opt. substd.) / heteroaryl (opt. substd.) / (Specifically claimed: 207 / cyclohexyl / 209 / COMe / CBr<sub>3</sub> / 213 / COCMe<sub>3</sub> / 216 / 221 / 236 / 305 / 247 / 268 / 3-furyl / 271 / 3-pyridyl / 276 / 4-pyridyl / 287 / 292 / 298 / 311 / 325 / 331)

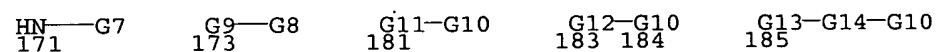




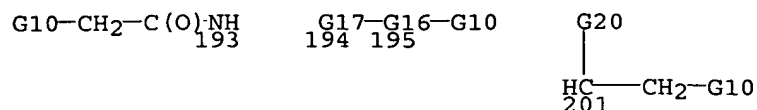
G5 = H / alkyl <containing 1-10 C> (opt. substd.) /  
 alkyl <containing 1-6 C> (substd. by Ph (opt. substd.)) /  
 acyl / 1008 / alkylaminocarbonyl <containing 1-6 C>  
 (opt. substd.) / CONHPh (opt. substd.) /  
 (Specifically claimed: 706 / 719 / 741 / 749 / 787 / 804 /  
 810 / 828)



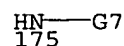
G6 = 173 / OH / SH / NH2 / 171 / 181 / 183 /  
 185 / 193 /  
 194 / (Specifically claimed: 201)







G7 = alkyl <containing 1-10 C> (opt. substd.) /  
R <" functionalized resin">  
G8 = OH / **NH2** / 175



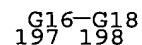
G9 = C(O) / CH2  
G10 = 177 / OH / SH / NH2 / 179



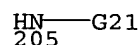
```
G11 = alkylene <containing 1-10 C> (opt. substd.) /
      alkenylene <containing 2-10 C> (opt. substd.) /
      alkynylene <containing 2-10 C> (opt. substd.)
G12 = cycloalkylene <containing 3-7 C> (opt. substd.) /
      cycloalkenylene <containing 5-7 C> (opt. substd.) /
      phenylene (opt. substd.) / carbocycle <containing 10 C,
      aromatic, bonds all normalized, bicyclic,
      (2) 6-membered rings> (opt. substd.) / 188-2 189-184 /
      heterocycle (opt. substd.) / heteroarylene (opt. substd.) /
      NH (opt. substd.) / 199-2 200-184
```



G13 = phenylene (opt. substd.)  
G14 = alkylene <containing 1-6 C> (opt. substd.)  
G15 = phenylene (opt. substd.)  
G16 = (1-6) CH2  
G17 = phenylene (opt. substd.) /  
heteroarylene (opt. substd.) / 197-2 198-195

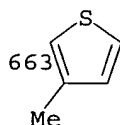
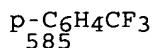
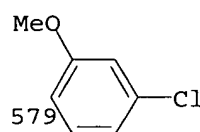
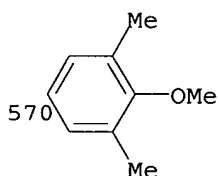
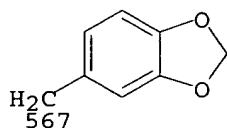
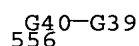
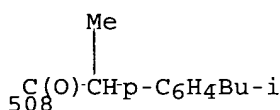
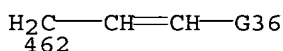
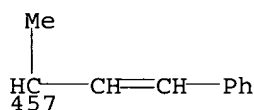
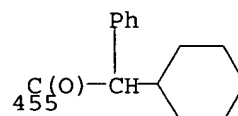
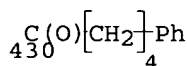
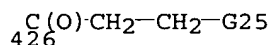
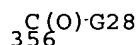
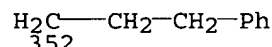
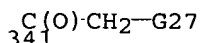
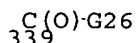
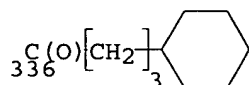


```
G18    = phenylene (opt. substd.) /
        heteroarylene (opt. substd.)
G19    = phenylene (opt. substd.) /
        heteroarylene (opt. substd.)
G20    = NH2 / 205
```

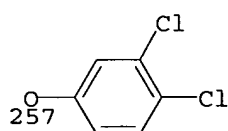
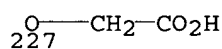


G21 = alkyl <containing 1-10 C> (opt. substd.) /  
alkenyl <containing 2-10 C> (opt. substd.) /  
alkynyl <containing 2-10 C> (opt. substd.) /

alkyl <containing 1-6 C> (substd. by Ph (opt. substd.)) /  
 acyl / CONH2 (opt. substd.) / alkylsulfonyl <containing 1-7  
 C> / alkylsulfonyl <containing 1-6 C> (substd. by Ph) /  
 SO2Ph (opt. substd.) / 341 / 356 / 430 / 426 / 339 / 336 /  
 352 / 455 / 457 / 462 / 508 / 556 / 567 / 570 / 579 / 585 /  
 663



G22 = R / (Specifically claimed: OH / F / Cl / Me / Br /  
 NO2 / CN / 227 / CF3 / CO2H / 257 / OPh / OMe)

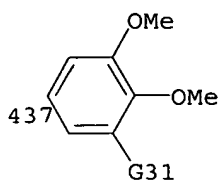


G23 = H / Me

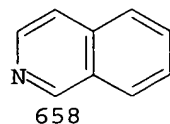
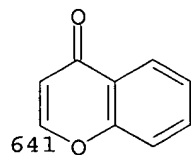
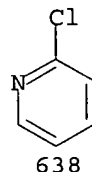
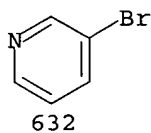
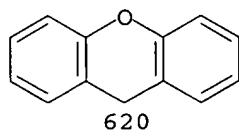
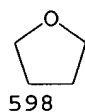
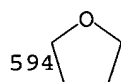
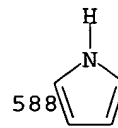
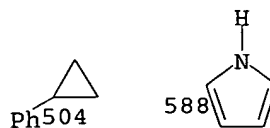
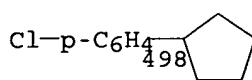
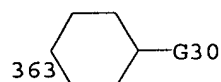
G24 = Et / Pr-n / nonyl

G25 = cyclohexyl / 433 / 437 / cyclopentyl / CPh

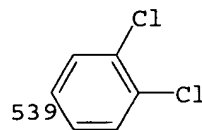
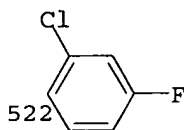
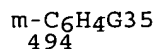
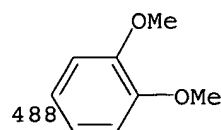
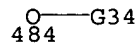
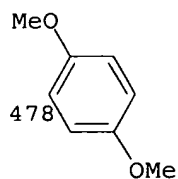
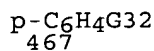
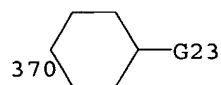
o-C<sub>6</sub>H<sub>4</sub>OMe  
433

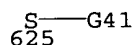
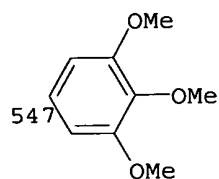


G26 = cyclobutyl / cycloheptyl / 363 / cyclopentyl / 396 /  
498 / 504 / Ph (opt. substd. by 1 or more G37) / naphthyl /  
pyridyl / 588 / 594 / 598 / 620 / 2-furyl / pyrazinyl /  
2-thienyl / 632 / 638 / 641 / 658

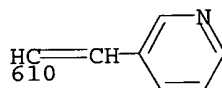
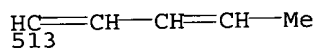
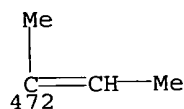
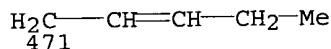
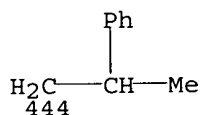
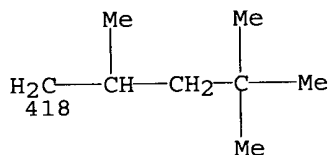
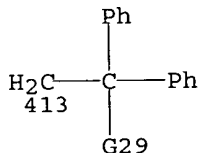
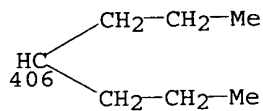
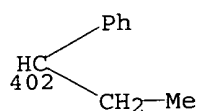
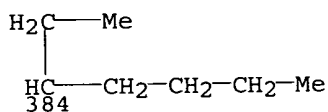
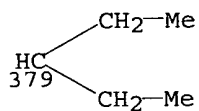
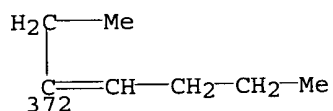


G27 = H / 370 / cyclopentyl / 1-adamantyl / 391 / 484 /  
467 / 494 / 478 / 488 / 625 / naphthyl / 522 / 539 / 547 /  
3-thienyl / 2-thienyl





G28 = Pr-n / Pr-i / Bu-i / heptyl / Et / CH<sub>2</sub>CMe<sub>3</sub> / Bu-t /  
 CH<sub>2</sub>CH<sub>2</sub>CHMe<sub>2</sub> / 372 / 379 / 384 / Bu-s / 402 / 406 / 413 /  
 418 / hexyl / undecyl / 444 / CH=CHMe / 471 / 472 /  
 CH<sub>2</sub>CH=CHPh / CPh<sub>3</sub> / CH<sub>2</sub>CH=CH<sub>2</sub> / 513 / 610

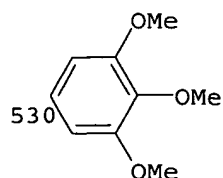


G29 = Ph / H  
 G30 = H / Me / Bu-t  
 G31 = H / OMe  
 G32 = OEt / Me / H / F / OMe / Ph / Br  
 G33 = Cl / H  
 G34 = Et / Me / Ph / 2-naphthyl  
 G35 = Me / CF<sub>3</sub> / Br / F / OMe  
 G36 = 465 / 518 / 530

p-C<sub>6</sub>H<sub>4</sub>G33  
465

$$\text{O}-\text{C}_6\text{H}_4\text{CF}_3$$

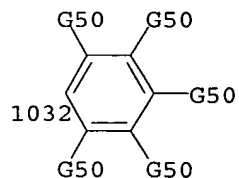
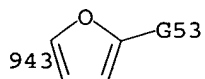
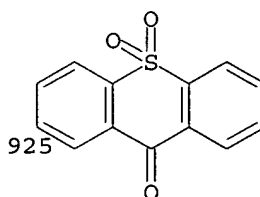
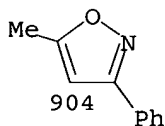
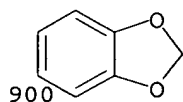
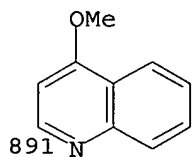
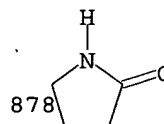
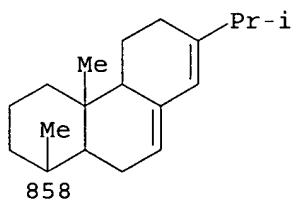
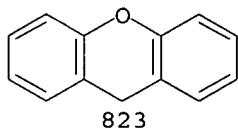
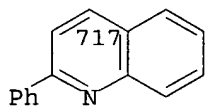
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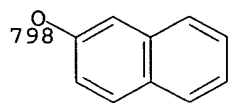
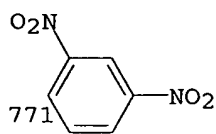
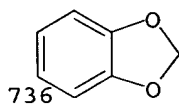
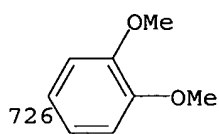
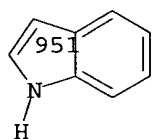
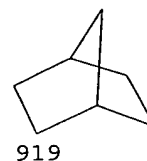
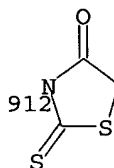
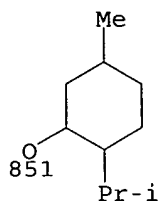
G37 = Me / Cl / OMe / F / Br / OEt / CF3 / CN / NMe2 / I /  
OPh / Et / OPr-i / Pr-i / 554 / NEt2 / CPh / Bu-n

p-C<sub>6</sub>H<sub>4</sub>G38  
554

```
G38      = Et / H
G39      = OMe / Me
G40      = phenylene
G41      = Me / 4-pyridyl / Ph
G48      = 717 / pyrazinyl / 1032 / 2-pyridyl / 1-naphthyl /
          823 / cyclohexyl / cycloheptyl / 858 / 943 / 878 / 891 /
          900 / 1-adamantyl / 904 / 3-pyridyl / 925 / 2-thienyl /
          4-pyridyl
```



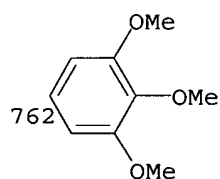
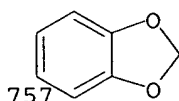
G49 = 722 / 726 / 736 / 771 / 1-naphthyl / 798 / 799 /  
OPh / cyclohexyl / 851 / H / 912 / 919 / 951

p-C<sub>6</sub>H<sub>4</sub>G52  
722S-G54  
799

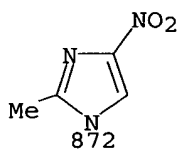
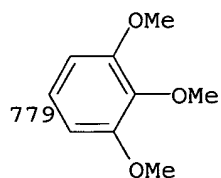
G50 = H / Cl / NO<sub>2</sub> / 801 / NH<sub>2</sub> / OH / OMe / OEt / CPh /  
NMe<sub>2</sub> / NEt<sub>2</sub> / Me

p-C<sub>6</sub>H<sub>4</sub>-G55  
801

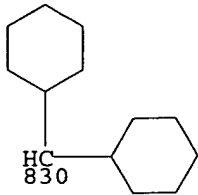
G51 = 747 / 757 / 762

p-C<sub>6</sub>H<sub>4</sub>-G53  
747

G52 = NO<sub>2</sub> / Ph / H  
G53 = NO<sub>2</sub> / H  
G54 = 4-pyridyl / Ph / Me / 2-pyrimidinyl  
G55 = Me / H  
G56 = 779 / CPh / Ph / NO<sub>2</sub> / 872



G57 = H / Ph  
G58 = Bu-t / CH<sub>2</sub>CMe<sub>3</sub> / 830 / heptyl

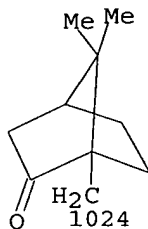
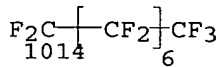
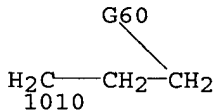


G59 = 743 / cyclohexyl

p-C<sub>6</sub>H<sub>4</sub>-G53  
743

G60 = H / OH

G61 = Ph (opt. substd. by 1 or more G63) /  
alkyl <containing 1-4 C> (opt. substd.) /  
(Specifically claimed: 1010 / octyl / 1014 / 1024 /  
2-naphthyl)



G63 = R / (Specifically claimed: NO<sub>2</sub> / Me / NHCOMe / Cl)

Derivative: or salts

Patent location: claim 1

Note: additional ring formation also claimed

Note: substitution is restricted

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 105 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 129:76520 MARPAT

TITLE: Vitronectin-receptor antagonists

INVENTOR(S): Wehner, Volkmar; Stilz, Hans-ulrich; Peyman,  
Anuschirwan; Scheunemann, Karlheinz; Ruxer,  
Jean-Marie; Carniato, Denis; Lefrancois, Jean-Michel;  
Gadek, Thomas Richard; McDowell, Robert

PATENT ASSIGNEE(S): Hoechst A.-G., Germany; Genentech Inc.

SOURCE: Ger. Offen., 52 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19653645	A1	19980625	DE 1996-19653645	19961220
EP 854145	A2	19980722	EP 1997-121931	19971212
EP 854145	A3	20000322		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, SI, LT, LV, FI, RO

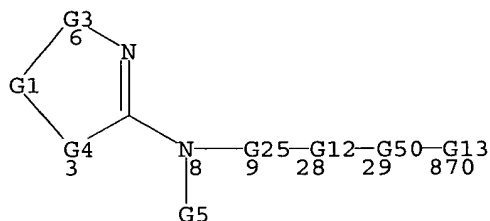
ZA 9711315	A	19980622	ZA 1997-11315	19971217
BR 9706386	A	20030422	BR 1997-6386	19971217
AU 9748464	A1	19980625	AU 1997-48464	19971218
AU 729760	B2	20010208		
CA 2225267	AA	19980620	CA 1997-2225267	19971219
NO 9705975	A	19980622	NO 1997-5975	19971219
CN 1200373	A	19981202	CN 1997-129789	19971219
JP 10182617	A2	19980707	JP 1997-365528	19971222
US 5990145	A	19991123	US 1997-995522	19971222
US 2001011087	A1	20010802	US 2001-778755	20010208
US 6482821	B2	20021119		
US 2003119785	A1	20030626	US 2002-299001	20021119

PRIORITY APPLN. INFO.:

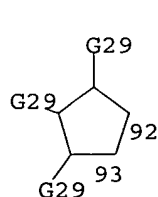
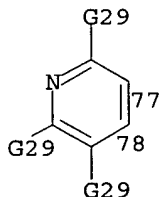
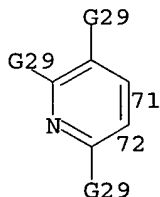
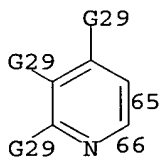
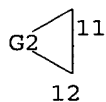
DE 1996-19653645	19961220
US 1997-995522	19971222
US 1999-412314	19991005
US 2001-778755	20010208

AB Compds. containing a nitrogen heterocycle and a fibrinogen receptor antagonist are claimed for use as vitronectin receptor antagonists and to inhibit bone resorption (no data).

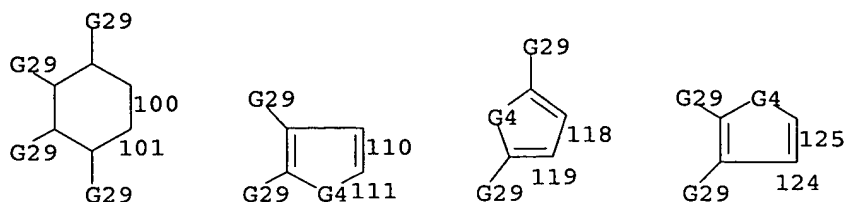
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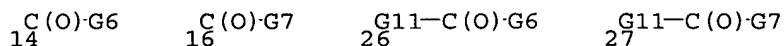
G1 = heterocycle <containing 5-10 atoms,  
1-4 heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms), mono- or polycyclic>  
(opt. substd.) / 11-6 12-3 / (Specifically claimed: o-C<sub>6</sub>H<sub>4</sub>  
(opt. substd.) / 65-6 66-3 / 71-6 72-3 / 77-6 78-3 /  
92-6 93-3 / 100-6 101-3 / 110-6 111-3 / 118-6 119-3 /  
125-6 124-3 )



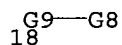




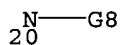
G2 = R <"group to form a ring">  
 G3 = **bond** / CH2  
 G4 = NH (opt. substd.) / O / S  
 G5 = H / alkyl <containing 1-10 C>  
 (opt. substd. by 1 or more F) /  
 cycloalkyl <containing 3-12 C> /  
 alkyl <containing 1-8 C> (substd. by cycloalkyl <containing  
 3-12 C>) / aryl <containing 5-14 C> /  
 alkyl <containing 1-8 C> (substd. by 1 or more aryl  
 <containing 5-14 C>) / 14 / 16 / 26 / 27



G6 = OH / 18 / NH2 / H / F /  
 cycloalkyl <containing 3-14 C> / R

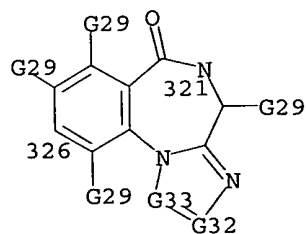
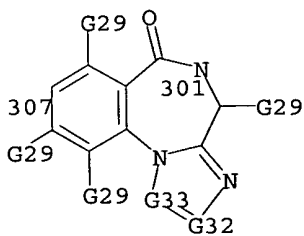
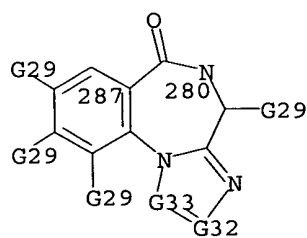
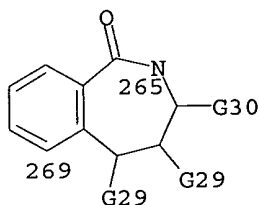
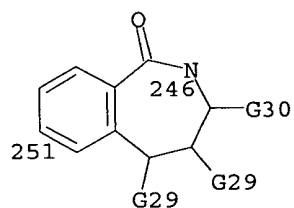
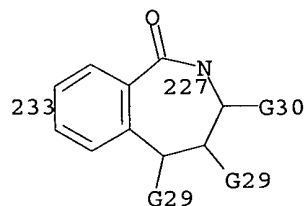
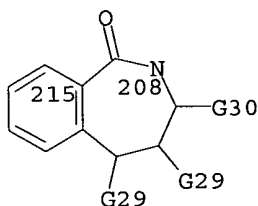
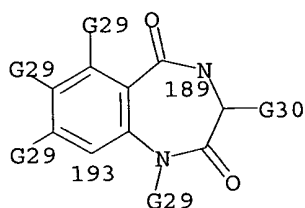
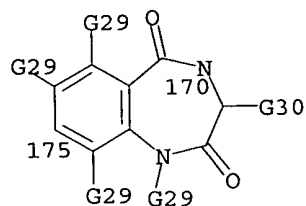
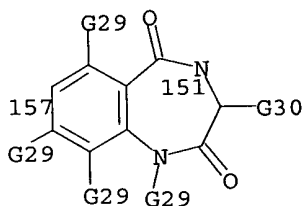
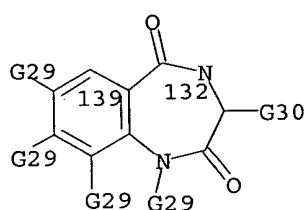


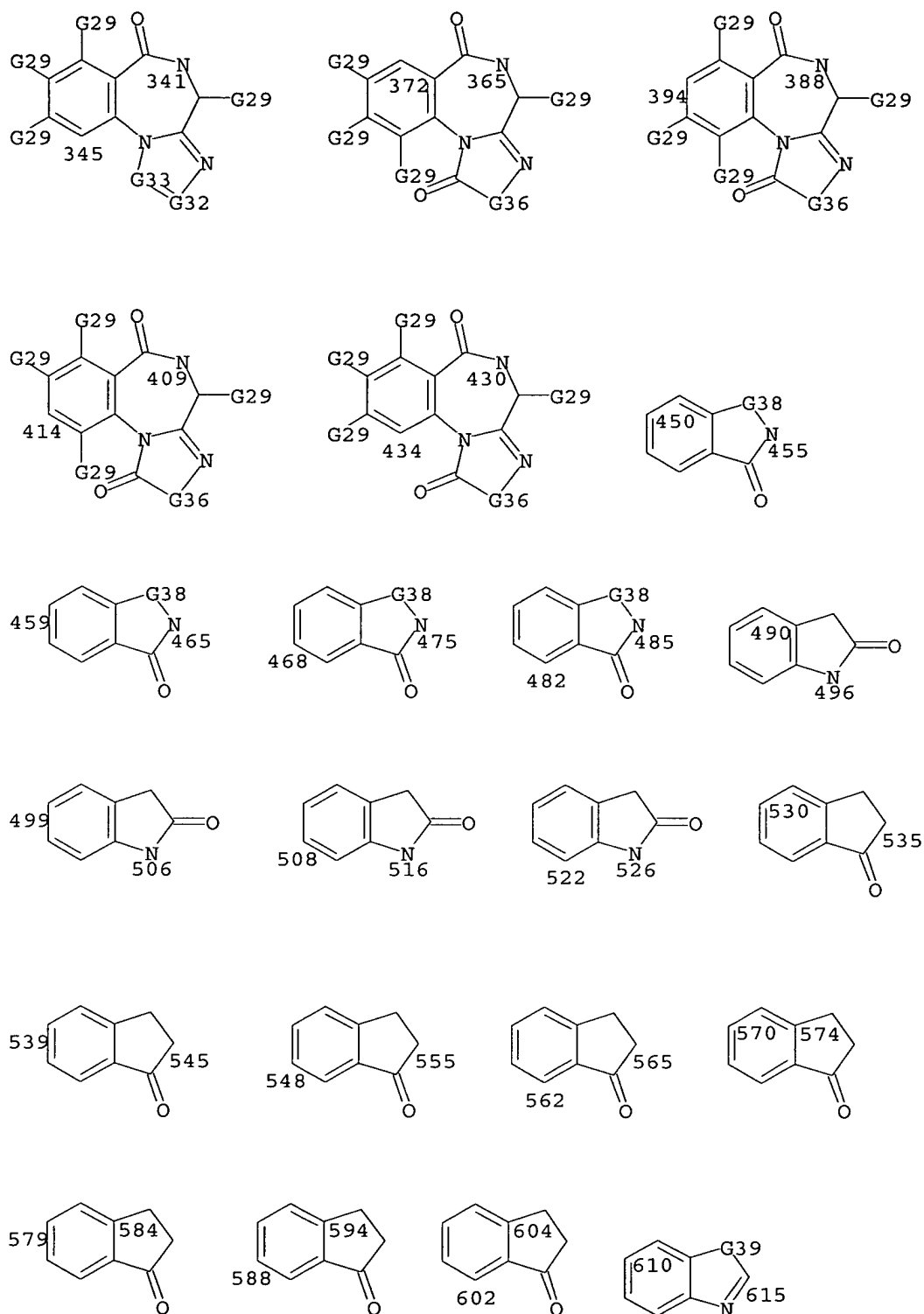
G7 = alkyl <containing 1-8 C>  
 (opt. substd. by 1 or more G10)  
 G8 = alkyl <containing 1-8 C>  
 (opt. substd. by 1 or more F) /  
 cycloalkyl <containing 3-14 C> /  
 alkyl <containing 1-8 C> (substd. by cycloalkyl <containing  
 3-14 C>) / aryl <containing 5-14 C> /  
 alkyl <containing 1-8 C> (substd. by 1 or more aryl  
 <containing 5-14 C>)  
 G9 = O / NH / 20

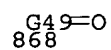
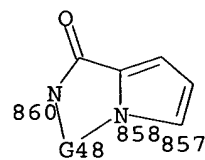
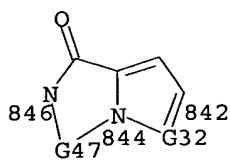
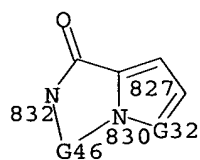
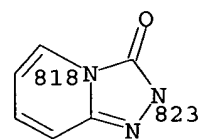
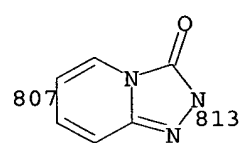
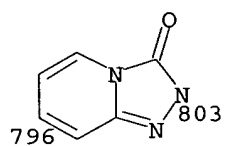
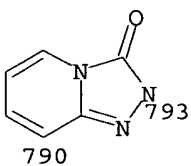
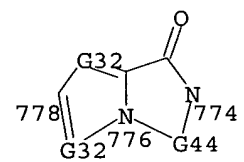
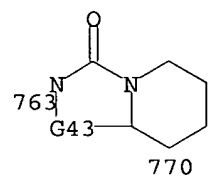
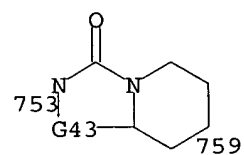
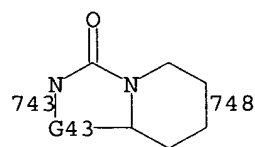
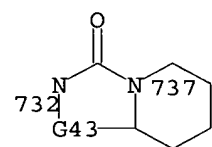
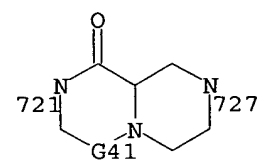
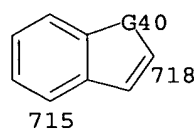
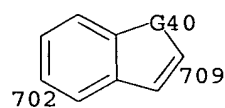
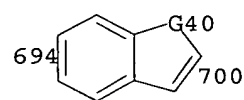
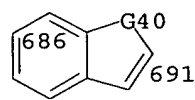
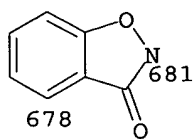
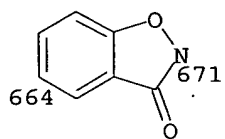
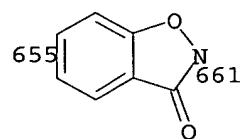
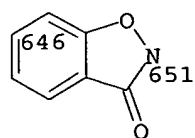
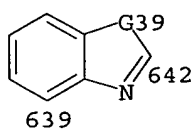
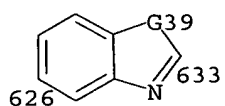
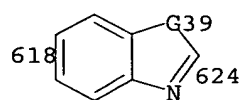


G10 = cycloalkyl <containing 3-14 C> / R  
 G11 = alkylene <containing 1-8 C>  
 G12 = R <"template of fibrinogen receptor antagonists"> /  
**(Specifically claimed: 139-9 132-29 / 157-9 151-29 /**  
 175-9 170-29 / 193-9 189-29 / 215-9 208-29 /  
 233-9 227-29 / 251-9 246-29 / 269-9 265-29 /  
 287-9 280-29 / 307-9 301-29 / 326-9 321-29 /  
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 414-9 409-29 / 434-9 430-29 / 450-9 455-29 /  
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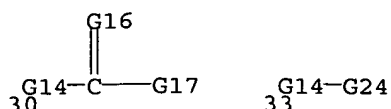
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 753-9 759-29 / 763-9 770-29 / 778-9 774-29 /  
 790-9 793-29 / 796-9 803-29 / 807-9 813-29 /  
 818-9 823-29 / 832-9 827-29 / 846-9 842-29 /  
 860-9 857-29 / heterocycle <containing zero or more N,  
 up to 1 O, up to 1 S (no other heteroatoms),  
 attached through 1 or more C, aromatic,  
 2 or more double bonds, bicyclic, (1) 5-membered ring,  
 (1) 6-membered ring only> (opt. substd.) / 868)



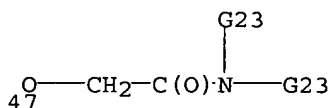
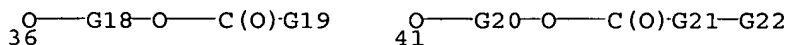




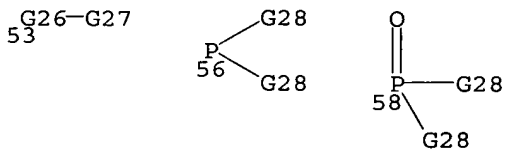
G13 = 30 / 33



- G14 = alkylene <containing 1 or more C> (opt. substd.) /  
**G15**  
 G15 = (1-3) **CH2**  
 G16 = **O** / **S**  
 G17 = OH / alkoxy <containing 1-8 C>  
 (opt. substd. by 1 or more aryl <containing 5-14 C>) /  
 aryloxy <containing 5-14 C> / 36 / 41 / **NH2** /  
 alkylamino <containing 1-8 C> (opt. substd. by 1 or more  
 aryl <containing 5-14 C>) / dialkylamino <each alkyl  
 containing 1-8 C> / 47 / arylamino <containing 5-14 C> /  
 R <"L- or D-amino acid group">



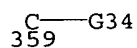
- G18 = alkylene <containing 1-4 C>  
 G19 = alkyl <containing 1-8 C>  
 G20 = alkylene <containing 1-6 C>  
 G21 = alkylene <containing 1-8 C>  
 G22 = aryl <containing 5-14 C>  
 G23 = alkyl <containing 1-8 C>  
 (opt. substd. by 1 or more aryl <containing 5-14 C>)  
 G24 = 53 / 56 / 58 / heterocycle <containing 1-4  
 heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms),  
 4- to 8-membered monocyclic ring> (opt. substd.) /  
 tetrazolyl / imidazolyl / pyrazolyl / oxazolyl /  
 thiadiazolyl



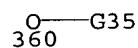
- G25 = **bond** / carbon chain <containing 1 or more C>  
 (opt. substd.) / R / (Specifically claimed: phenylene /  
 heterocycle <containing zero or more N, zero or more O,  
 zero or more S> (opt. substd.) /  
 cycloalkylene <containing 5-6 C> / O / NH (opt. substd.) /  
 882-8 883-28 / 884-8 885-28 / 886-8 887-28 /  
 888-8 889-28 )



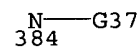
G26 = S(O) / SO2  
 G27 = NH2 (opt. substd.)  
 G28 = H / R  
 G29 = H / R  
 G30 = H / F / Cl / Br / I / alkoxy <containing 1-4 C> /  
       alkyl <containing 1-4 C> / Ph / CH2Ph /  
       alkyl <containing 1-4 C> (substd. by 1 or more G31)  
 G31 = F / Cl / Br / I  
 G32 = N / CH (opt. substd.)  
 G33 = N / 359



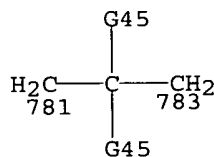
G34 = H / R / OH / 360



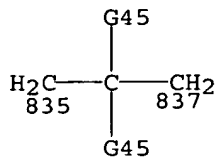
G35 = alkyl <containing 1-10 C> /  
       alkenyl <containing 3-10 C> / aryl <containing 6-14 C>  
       (opt. substd. by alkyl <containing 1-6 C>)  
 G36 = CH2 (opt. substd.) / 384



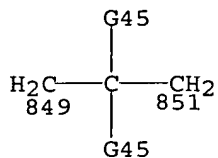
G37 = H / R / alkyl <containing 1-10 C> /  
       alkenyl <containing 3-10 C> / aryl <containing 6-14 C>  
       (opt. substd. by alkyl <containing 1-6 C>)  
 G38 = (1-2) CH2  
 G39 = O / S  
 G40 = O / CH2 / S  
 G41 = C(O) / G42  
 G42 = (1-2) CH2  
 G43 = C(O) / CH2  
 G44 = CH2 / CH2CH2 / 781-776 783-774



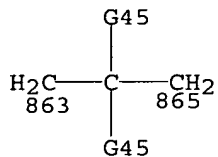
G45 = H / R  
 G46 = CH2 / CH2CH2 / 835-832 837-830



G47 = CH<sub>2</sub> / CH<sub>2</sub>CH<sub>2</sub> / 849-846 851-844

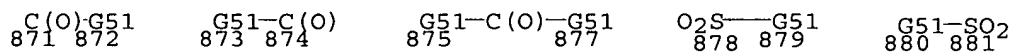


G48 = CH<sub>2</sub> / CH<sub>2</sub>CH<sub>2</sub> / 863-860 865-858



G49 = heterocycle <containing zero or more N, up to 1 O, up to 1 S (no other heteroatoms), attached through 1 or more C, aromatic, 2 or more double bonds, bicyclic, (1) 5-membered ring, (1) 6-membered ring only> (opt. substd.)

G50 = bond / R / (Specifically claimed: carbon chain <containing 1 or more C> (opt. substd.) / O / 871-28 872-870 / 873-28 874-870 / 875-28 877-870 / 878-28 879-870 / 880-28 881-870 )



G51 = NH (opt. substd.)

Derivative: and physiologically acceptable salts  
Patent location: claim 1  
Note: substitution is restricted

L71 ANSWER 106 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 128:321931 MARPAT  
TITLE: Preparation of heteroaryl succinamides as metalloproteinase inhibitors  
INVENTOR(S): Bender, Steven L.; Castelhana, Arlindo L.; Chong, Wesley K. M.; Abreo, Melwyn A.; Billedeau, Roland J.; Chen, Jian Jeffrey; Deal, Judith G.  
PATENT ASSIGNEE(S): Agouron Pharmaceuticals, Inc., USA; Syntex (U.S.A.) Inc.  
SOURCE: PCT Int. Appl., 278 pp.  
CODEN: PIXXD2

DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9817643	A1	19980430	WO 1997-US17809	19971006
W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW			
RW:	GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
US 6008243	A	19991228	US 1997-823962	19970325
CA 2267879	AA	19980430	CA 1997-2267879	19971006
CA 2267879	C	20060314		
AU 9748060	A1	19980515	AU 1997-48060	19971006
AU 735194	B2	20010705		
EP 937042	A1	19990825	EP 1997-910770	19971006
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO			
CN 1233237	A	19991027	CN 1997-198705	19971006
BR 9713278	A	19991103	BR 1997-13278	19971006
JP 2000511201	T2	20000829	JP 1998-519394	19971006
IL 128914	A1	20030410	IL 1997-128914	19971006
TR 200402157	T2	20050221	TR 2004-200402157	19971006
ZA 9709406	A	19980709	ZA 1997-9406	19971021
NO 9901922	A	19990422	NO 1999-1922	19990422
NO 313281	B1	20020909		
MX 9903730	A	20000228	MX 1999-3730	19990422
KR 2000052779	A	20000825	KR 1999-703591	19990423
US 6174915	B1	20010116	US 1999-309602	19990511
BG 64506	B1	20050531	BG 1999-103415	19990520
US 6306892	B1	20011023	US 2000-598208	20000621
US 2002019429	A1	20020214	US 2001-922206	20010806
US 6495699	B2	20021217		
AU 763835	B2	20030731	AU 2001-78253	20011005
			US 1996-29115P	19961024
			US 1997-823962	19970325
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			WO 1997-US17809	19971006
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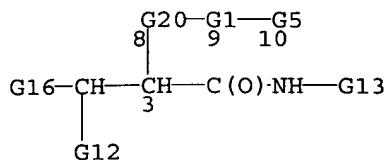
## PRIORITY APPLN. INFO.:

AB The present invention is directed to title compds. I [X = bond, (un)branched, (un)saturated C1-6 alkyl optionally containing O or S atoms, and optionally substituted by F; Y = bond, CH(OH), CO; R1 = H, alkyl, aryl, heteroaryl, cycloalkyl, heterocycloalkyl; R2 = any group R1, COR10; R3 = any group R1, NR11R12, OR11; or R2R3 form cycloalkyl or heterocycloalkyl group; R4 = H, suitable organic moiety; R5 = CONHOH, CO2R13, SH, N(OH)CHO, SCOR14, P(O)(OH)R15, P(O)(OH)OR13; R11 = any group R1, alkoxy; R12 = any group R1; NR12R12 = heteroaryl, heterocycloalkyl; R13 = H, alkyl, aryl; R14 = alkyl, aryl; R15 = alkyl; Q = 5-membered heteroaryl ring containing 1-3 heteroatoms O, S, N] and pharmaceutically acceptable salts and solvates thereof, and pharmaceutically acceptable prodrugs thereof. Compds. I are useful for inhibiting the activity of a metalloproteinase by contacting the metalloproteinase with an effective amount of the inventive compds. Thus, cyclocondensation of Boc-D-Asp(OCH2Ph)-L-Pheol (Boc = Me3CO2C; Pheol

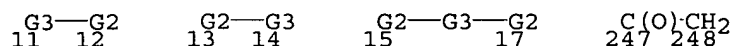


= phenylalaninol) (preparation given) with 3-(4-biphenyl)2,5-dimethoxytetrahydrofuran (preparation given) and catalytic hydrogenolysis gave pyrrole analog II. II and approx. 60 related heterocycles were tested for inhibitory activity against a variety of metalloproteinases.

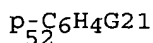
## MSTR 1



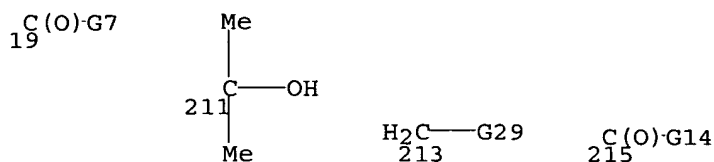
G1 = bond / carbon chain <containing 1-6 C>  
(opt. substd. by 1 or more F) / O / S / 11-8 12-10 /  
13-8 14-10 / 15-8 17-10 / (Specifically claimed:  
ethynylene / CH<sub>2</sub>CH<sub>2</sub>) / (Example: 247-8 248-10 )



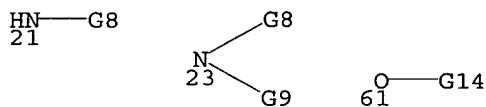
G2 = carbon chain <containing 1-5 C>  
(opt. substd. by 1 or more F)  
G3 = O / S  
G4 = bond / CHOH / C(O)  
G5 = H / carbon chain (opt. substd.) /  
aryl <containing 6-18 C, 1-3 rings> (opt. substd.) /  
heteroaryl <containing up to 18 atoms, 1-5 heteroatoms,  
zero or more N, up to 1 O, up to 1 S (no other heteroatoms),  
1-3 rings> (opt. substd.) / carbocycle <containing 3-14 C,  
non-aromatic, 1-3 rings> (opt. substd.) /  
heterocycle <containing 3-18 atoms, 1-5 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), non-aromatic,  
1-3 rings> (opt. substd.) / (Specifically claimed: 52 /  
4-pyridyl)



G6 = H / carbon chain (opt. substd.) /  
aryl <containing 6-18 C, 1-3 rings> (opt. substd.) /  
heteroaryl <containing up to 18 atoms, 1-5 heteroatoms,  
zero or more N, up to 1 O, up to 1 S (no other heteroatoms),  
1-3 rings> (opt. substd.) / carbocycle <containing 3-14 C,  
non-aromatic, 1-3 rings> (opt. substd.) /  
heterocycle <containing 3-18 atoms, 1-5 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), non-aromatic,  
1-3 rings> (opt. substd.) / 19 / 215 /  
(Specifically claimed: Bu-t / 213 / Ph / Bu-i) /  
(Example: 211)



G7 = H / aryl <containing 6-18 C, 1-3 rings> (opt. substd.) / heteroaryl <containing up to 18 atoms, 1-5 heteroatoms, zero or more N, up to 1 O, up to 1 S (no other heteroatoms), 1-3 rings> (opt. substd.) / carbocycle <containing 3-14 C, non-aromatic, 1-3 rings> (opt. substd.) / heterocycle <containing 3-18 atoms, 1-5 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), non-aromatic, 1-3 rings> (opt. substd.) / aryloxy <containing 6-18 C, 1-3 rings> (opt. substd.) / 61 / NH2 / 21 / 23



G8 = carbon chain (opt. substd.) / 63 / aryl <containing 6-18 C, 1-3 rings> (opt. substd.) / heteroaryl <containing up to 18 atoms, 1-5 heteroatoms, zero or more N, up to 1 O, up to 1 S (no other heteroatoms), 1-3 rings> (opt. substd.) / carbocycle <containing 3-14 C, non-aromatic, 1-3 rings> (opt. substd.) / heterocycle <containing 3-18 atoms, 1-5 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), non-aromatic, 1-3 rings> (opt. substd.) / (Specifically claimed: Me / 4-pyridyl) / (Examples: 226 / OMe)

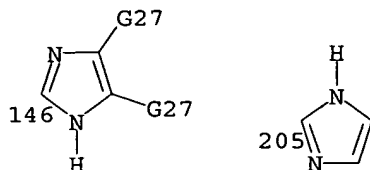


G9 = carbon chain (opt. substd.) / aryl <containing 6-18 C, 1-3 rings> / heteroaryl <containing up to 18 atoms, 1-5 heteroatoms, zero or more N, up to 1 O, up to 1 S (no other heteroatoms), 1-3 rings> (opt. substd.) / carbocycle <containing 3-14 C, non-aromatic, 1-3 rings> (opt. substd.) / heterocycle <containing 3-18 atoms, 1-5 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), non-aromatic, 1-3 rings> (opt. substd.) / (Example: Me)

G10 = H / aryl <containing 6-18 C, 1-3 rings> (opt. substd.) / heteroaryl <containing up to 18 atoms, 1-5 heteroatoms, zero or more N, up to 1 O, up to 1 S (no other heteroatoms), 1-3 rings> (opt. substd.) / carbocycle <containing 3-14 C, non-aromatic, 1-3 rings> (opt. substd.) / heterocycle <containing 3-18 atoms, 1-5 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), non-aromatic,

1-3 rings> (opt. substd.) / NH<sub>2</sub> / 27 / OH /  
 (Specifically claimed: 146 / 205)

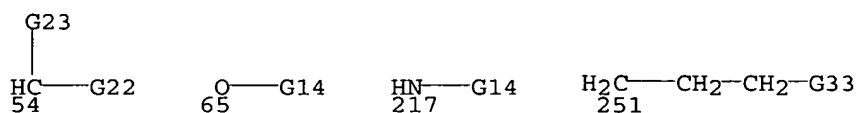
G11-G8  
 27



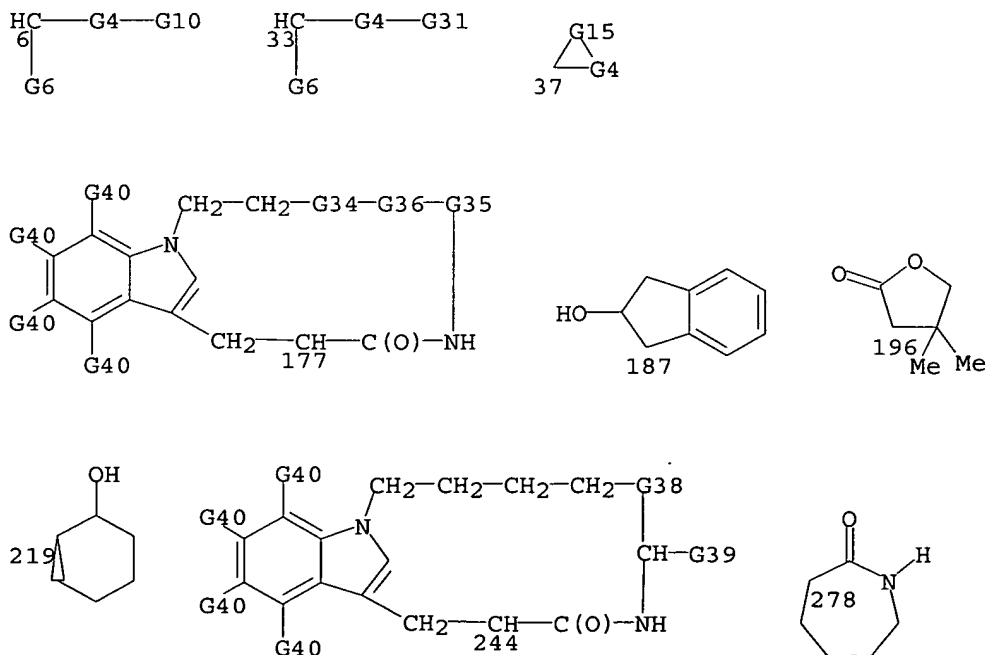
G11 = NH / 29 / O

N-G9  
 29

G12 = H / R <"organic moiety"> /  
 (Specifically claimed: carbon chain (opt. substd.) / OH /  
 65 / NH<sub>2</sub> / 217 / carbocycle <containing 3-14 C,  
 non-aromatic, 1-3 rings> (opt. substd.) / 54 / cyclopropyl) /  
 (Examples: 251 / CH<sub>2</sub>CH=CH<sub>2</sub>)



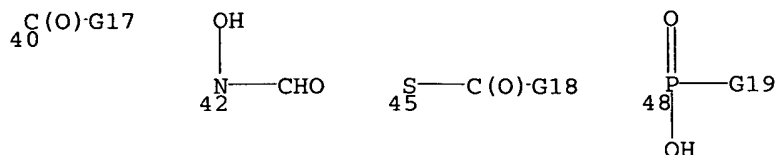
G13 = 6 / 33 / 37 / 177 / 244 /  
 (Specifically claimed: 187 / 196) / (Examples: 219 / 278)



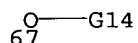
G14 = carbon chain (opt. substd.)

G15 = R <"moiety to complete a cycloalkyl or  
 heterocycloalkyl ring">

G16 = 40 / SH / 42 / 45 / 48

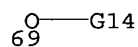


G17 = NHOH / OH / 67 / aryloxy <containing 6-18 C, 1-3 rings> (opt. substd.)

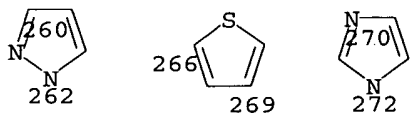
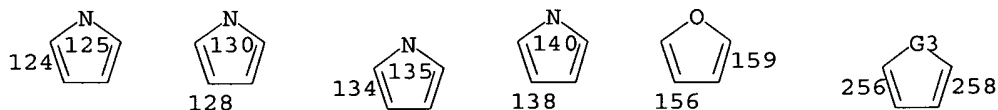
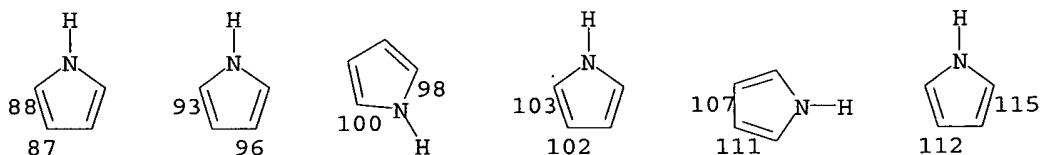


G18 = carbon chain (opt. substd.) / aryl <containing 6-18 C, 1-3 rings> (opt. substd.)

G19 = carbon chain (opt. substd.) / OH / 69 / aryloxy <containing 6-18 C, 1-3 rings> (opt. substd.)

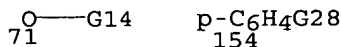


G20 = heterocycle <containing 1-3 heteroatoms, zero or more N, up to 1 O, up to 1 S (no other heteroatoms), aromatic, 2 double bonds, 5-membered monocyclic ring> (opt. substd.) / (Specifically claimed: 88-3 87-9 / 93-3 96-9 / 98-3 100-9 / 102-3 103-9 / 107-3 111-9 / 112-3 115-9 / 124-3 125-9 / 128-3 130-9 / 135-3 134-9 / 140-3 138-9 / 156-3 159-9 ) / (Examples: 256-3 258-9 / 262-3 260-9 / 269-3 266-9 / 272-3 270-9 )



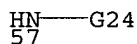
G21 = H / F / Cl / Br / I / carbon chain (opt. substd.) / 71 / CN / OH / aryl <containing 6-18 C, 1-3 rings> (opt. substd.) / heteroaryl <containing up to 18 atoms,

1-5 heteroatoms, zero or more N, up to 1 O,  
 up to 1 S (no other heteroatoms), 1-3 rings> (opt. substd.) /  
 heterocycle <containing 3-18 atoms, 1-5 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), non-aromatic,  
 1-3 rings> (opt. substd.) / 154 / Pr-n / 4-pyridyl / F

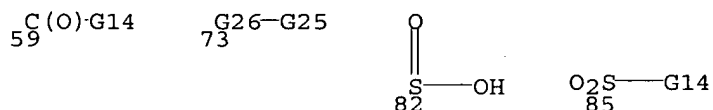


G22 = H / carbon chain (opt. substd.) /  
 aryl <containing 6-18 C, 1-3 rings> (opt. substd.) /  
 heteroaryl <containing up to 18 atoms, 1-5 heteroatoms,  
 zero or more N, up to 1 O, up to 1 S (no other heteroatoms),  
 1-3 rings> (opt. substd.) / carbocycle <containing 3-14 C,  
 non-aromatic, 1-3 rings> (opt. substd.) /  
 heterocycle <containing 3-18 atoms, 1-5 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), non-aromatic,  
 1-3 rings> (opt. substd.)

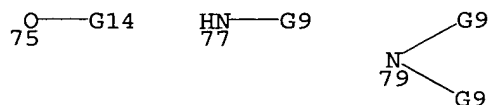
G23 = OH / 57 / NH2



G24 = CHO / 59 / 73 / 82 / 85 /  
 carbon chain (opt. substd.) / aryl <containing 6-18 C,  
 1-3 rings> (opt. substd.) / heteroaryl <containing up to 18  
 atoms, 1-5 heteroatoms, zero or more N, up to 1 O,  
 up to 1 S (no other heteroatoms), 1-3 rings> (opt. substd.) /  
 carbocycle <containing 3-14 C, non-aromatic, 1-3 rings>  
 (opt. substd.) / heterocycle <containing 3-18 atoms,  
 1-5 heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), non-aromatic,  
 1-3 rings> (opt. substd.)



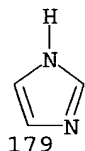
G25 = aryl <containing 6-18 C, 1-3 rings> (opt. substd.) /  
 heteroaryl <containing up to 18 atoms, 1-5 heteroatoms,  
 zero or more N, up to 1 O, up to 1 S (no other heteroatoms),  
 1-3 rings> (opt. substd.) / carbocycle <containing 3-14 C,  
 non-aromatic, 1-3 rings> (opt. substd.) /  
 heterocycle <containing 3-18 atoms, 1-5 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), non-aromatic,  
 1-3 rings> (opt. substd.) / aryloxy <containing 6-18 C,  
 1-3 rings> (opt. substd.) / 75 / NH2 / 77 / 79



G26 = C(O) / SO2  
 G27 = H / R <"organic moiety"> /  
 carbon chain (opt. substd.) / aryl <containing 6-18 C,  
 1-3 rings> (opt. substd.) / heteroaryl <containing up to 18  
 atoms, 1-5 heteroatoms, zero or more N, up to 1 O,  
 up to 1 S (no other heteroatoms), 1-3 rings> (opt. substd.) /  
 F / Cl / Br / I / 153 / CONH2 /  
 carbocycle <containing 3-14 C, non-aromatic, 1-3 rings>  
 (opt. substd.) / heterocycle <containing 3-18 atoms,  
 1-5 heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), non-aromatic,  
 1-3 rings> (opt. substd.)

$\text{C}(\text{O})-\text{O}-\text{G14}$   
 153

G28 = H / CN / CONH2  
 G29 = Ph / (Example: 179)



G30 = CO2Me / CO2Et  
 G31 = carbon chain (opt. substd.) / (Example: 249)

$\text{H}_2\text{C}-\text{G32}$   
 249

G32 = OMe / H  
 G33 = H / OH  
 G34 = (1-3) CH2  
 G35 = (1-4) CH2  
 G36 = CH2 / O / 284

$\text{N}-\text{G37}$   
 284

G37 = H / carbon chain (opt. substd.)  
 G38 = (0-2) CH2  
 G39 = CO2H / 286 / CONH2

$\text{C}(\text{O})-\text{O}-\text{G14}$   
 286

G40 = H / OH / F / Cl / Br / I /  
 carbon chain (opt. substd.) / 290

$\text{O}-\text{G14}$   
 290

Derivative: or pharmaceutically acceptable salts, solvates or prodrugs  
 Patent location: claim 1  
 Note: additional ring fusion and oxo substitution also claimed  
 Note: substitution is restricted  
 Note: additional G3 interruptions of Ak in G1 also claimed

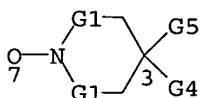
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 107 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 128:230819 MARPAT  
 TITLE: Nitroxide polymerization inhibitors for vinyl monomers  
 INVENTOR(S): Sutoris, Heinz Friedrich; Koch, Andreas; Aumueeller, Alexander; Dupuis, Jacques; Niessner, Manfred  
 PATENT ASSIGNEE(S): BASF A.-G., Germany  
 SOURCE: Ger. Offen., 14 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19638868	A1	19980326	DE 1996-19638868	19960923
WO 9813346	A1	19980402	WO 1997-EP4893	19970909
W: AL, AM, AU, AZ, BG, BR, BY, CA, CN, CZ, GE, HU, ID, IL, JP, KG, KR, KZ, LT, LV, MD, MX, NO, NZ, PL, RO, RU, SG, SI, SK, TJ, TM, TR, UA, US, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9743832	A1	19980417	AU 1997-43832	19970909
EP 931064	A1	19990728	EP 1997-941997	19970909
EP 931064	B1	20021127		
R: DE, FR, GB, IT				
CN 1230949	A	19991006	CN 1997-198123	19970909
CN 1124263	B	20031015		
JP 2001505547	T2	20010424	JP 1998-515199	19970909
US 6379588	B1	20020430	US 1999-269165	19990323
PRIORITY APPLN. INFO.:				
			DE 1996-19638868	19960923
			WO 1997-EP4893	19970909

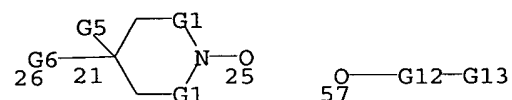
AB Secondary amine N-oxyl derivs. are effective polymerization inhibitors for vinyl monomers bearing heteroatoms (halogen, N, O, S, Si) on the vinyl group.  
 N-vinylformamide (I number 98.8) containing 0.05%  
 N,N'-diformyl-N,N'-bis(1-oxyl-2,2,6,6-tetramethyl-4-piperidiny)-1,6-hexanediamine (I) had I number 75.7 after 83 days at 40°; vs. 62.5 without I.

# MSTR 2B

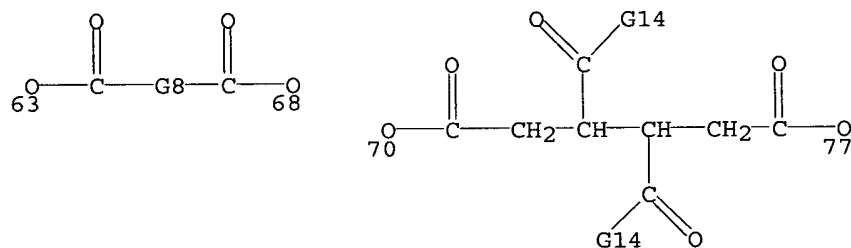
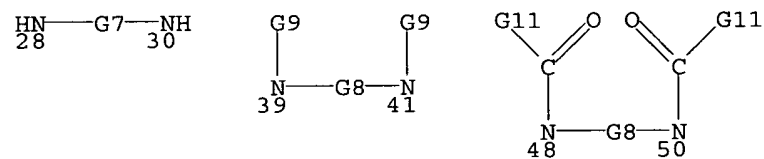


The diagram shows two separate components. On the left, a vertex labeled 'C' has two incident edges, both labeled 'G2'. On the right, a hexagon is shown with one vertex labeled 'G3' and the edge immediately to its left labeled '16'.

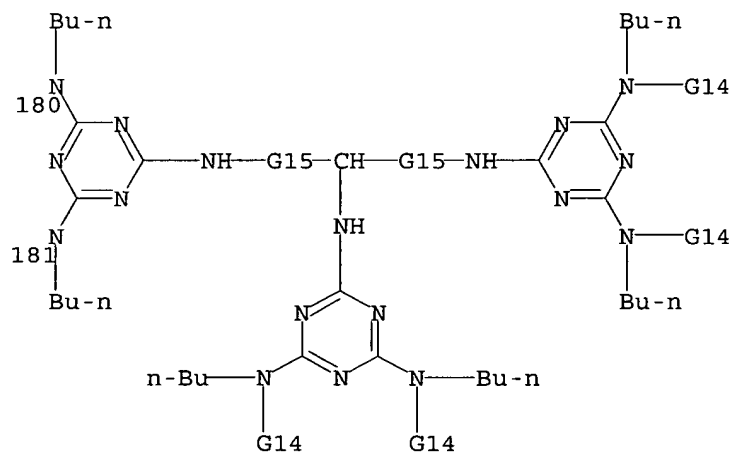
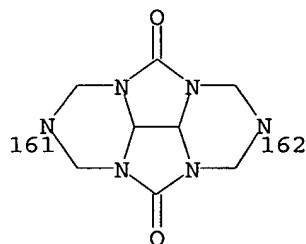
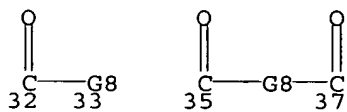
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G4 = R <"organic group"> / (Specifically claimed: 26 / 57)
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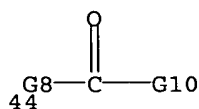
G6 = 28-3 30-21 / 39-3 41-21 / 48-3 50-21 /  
63-3 68-21 / 70-3 77-21 / 95-3 111-21 / 161-3 162-21 /  
180-3 181-21



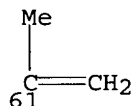



$$G7 = G8 / 32-28 \quad 33-30 \quad / \quad 35-28 \quad 37-30$$


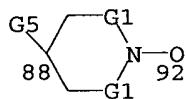
G8 = (1-12) CH2  
G9 = alkyl <containing 1-12 C> / 44



G10 = alkoxy <containing 1-18 C>  
 G11 = H / alkyl <containing 1-18 C>  
 G12 = (0-1) C(O)  
 G13 = alkyl <containing 1-18 C> / CH=CH2 / 61



G14 = 88



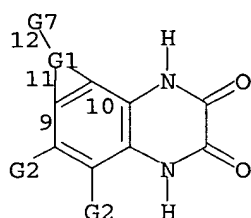
G15 = alkylene <containing 1-100 C, unbranched>  
 Patent location: claim 6  
 Note: oxygen at 7, 25 and 92 is free radical

L71 ANSWER 108 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 128:167446 MARPAT  
 TITLE: Preparation of cycloalkaquinioxalinediones as  
 neuroprotective glutamate antagonists.  
 INVENTOR(S): Bigge, Christopher Franklin; Retz, Daniel Martin  
 PATENT ASSIGNEE(S): Warner-Lambert Co., USA; Bigge, Christopher Franklin;  
 Retz, Daniel Martin  
 SOURCE: PCT Int. Appl., 105 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

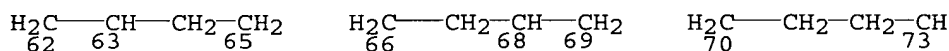
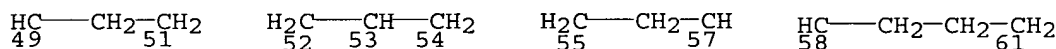
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WO 9805651	A1	19980212	WO 1997-US10504	19970618
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RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9735719	A1	19980225	AU 1997-35719	19970618
ZA 9706829	A	19980211	ZA 1997-6829	19970731
PRIORITY APPLN. INFO.:			US 1996-22953P	19960801
			WO 1997-US10504	19970618
AB Title compds. [I; Z = atoms to form a 5-7 membered carbocyclic ring; X, Y				

= H halo, NO<sub>2</sub>, cyano, CF<sub>3</sub>, CO<sub>2</sub>H, CONR<sub>1</sub>R<sub>2</sub>, COR<sub>3</sub>, SO<sub>2</sub>R<sub>3</sub>, imidazolyl, imidazolidinyl; R<sub>1</sub>, R<sub>2</sub> = H, alkyl, cycloalkyl, aralkyl; R<sub>1</sub>R<sub>2</sub>N = heterocyclyl; A = bond, O, S, NR<sub>4</sub>, NR<sub>4</sub>CS, CONR<sub>4</sub>, CO, CS; R<sub>4</sub> = H, alkyl, cycloalkyl, aralkyl; when n = 0 then R<sub>4</sub>B = atoms to form a heterocyclic ring; B = H, alkyl, alkenyl, alkynyl, aryl, aralkyl, R<sub>5</sub>, cyano, COR<sub>5</sub>, PO<sub>3</sub>R<sub>5</sub>R<sub>5</sub>, SO<sub>2</sub>R<sub>5</sub>, heterocyclyl; R<sub>5</sub> = OH, alkoxy, aralkoxy, aryloxy, NR<sub>1</sub>R<sub>2</sub>; m, n = 0-2; with provisos], were prepared Thus, 9-methylamino-1,2,3,4,7,8,9,10-octahydrobenzo[f]quinoxaline-2,3-dione hydrochloride was stirred with fuming HNO<sub>3</sub>/CF<sub>3</sub>CO<sub>2</sub>H at 0° to room temperature for 1 h to give 9-methylamino-6-nitro-1,2,3,4,7,8,9,10-octahydrobenzo[f]quinoxaline-2,3-dione. Claimed I generally inhibited anticonvulsant activity in the mouse maximal electroshock assay with ED<sub>50</sub> <50 mg/kg.

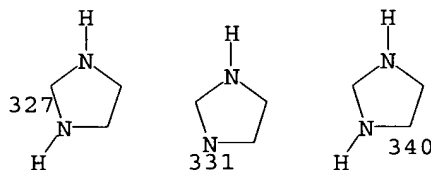
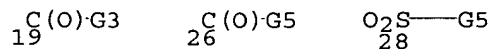
## MSTR 1



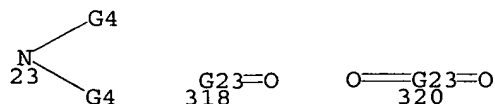
G1 = carbon chain <containing 3-5 C> /  
 (Specifically claimed: 49-9 51-10 49-12 /  
 52-9 54-10 53-12 / 57-10 55-9 57-12 / 58-9 61-10 58-12 /  
 62-9 65-10 63-12 / 66-9 69-10 68-12 / 73-10 70-9 73-12 )



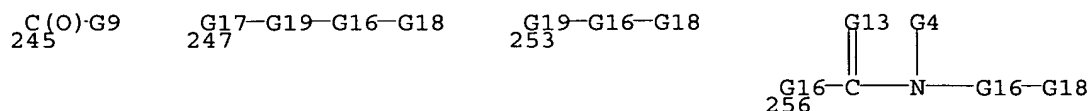
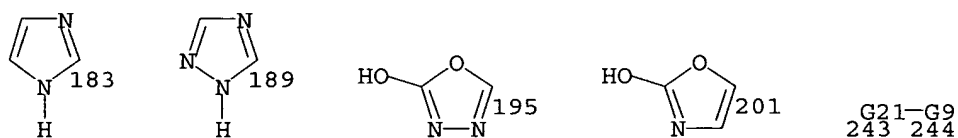
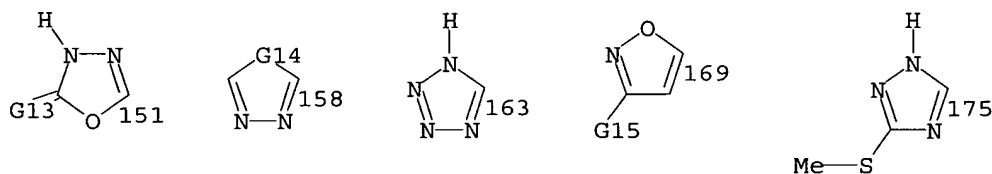
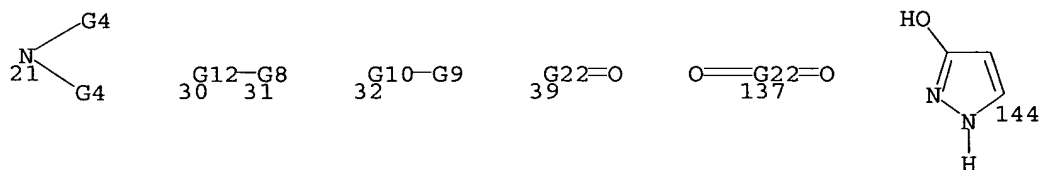
G2 = H / F / Cl / Br / I / NO<sub>2</sub> / CN / CF<sub>3</sub> / 19 / 26 /  
 28 / imidazolyl / 327 / 331 / 340

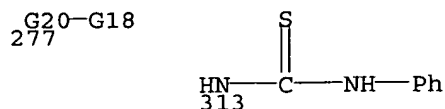
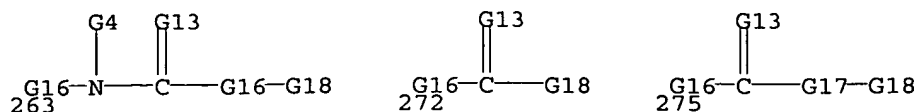


G3 = OH / 23 / heterocycle <containing 1 or more heteroatoms, 1 or more N, attached through 1 or more N, 5- or 6-membered rings only> (opt. substd.) / 318 / 320

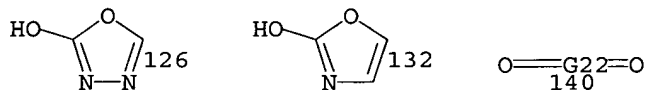
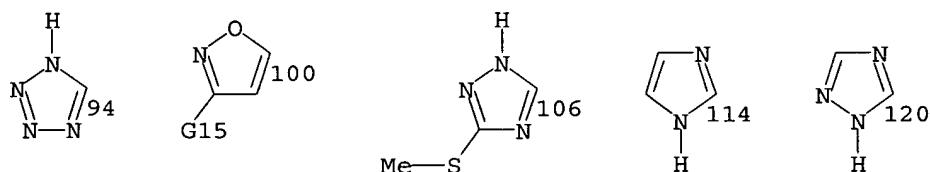
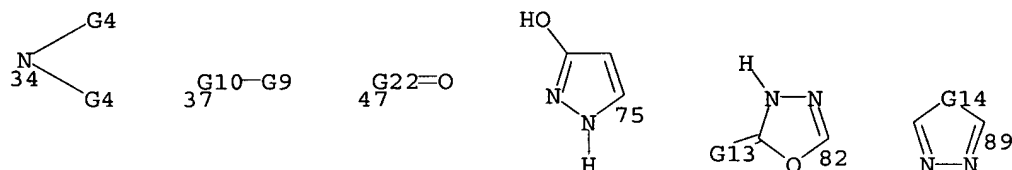


- G4 = H / alkyl <containing 1-6 C>  
(opt. substd. by aryl <mono- or bicyclic> /  
cycloalkyl <containing 3-7 C> / (Specifically claimed: Me)
- G5 = alkyl <containing 1-6 C>  
(opt. substd. by 1 or more G6) /  
cycloalkyl <containing 3-7 C> / aryl <mono- or bicyclic> /  
alkyl <containing 1-6 C> (substd. by aryl <mono- or bicyclic>  
)
- G6 = F / Cl / Br / I
- G7 = H / alkyl <containing 1-6 C>  
(opt. substd. by aryl <mono- or bicyclic> /  
alkenyl <containing 2-6 C> / alkynyl <containing 2-6 C> /  
aryl <mono- or bicyclic> / OH /  
alkoxy (opt. substd. by aryl <mono- or bicyclic> /  
aryloxy <mono- or bicyclic> / 21 / CN / 245 / 32 /  
heterocycle <containing 1 or more heteroatoms,  
zero or more N, 5- or 6-membered rings only> (opt. substd.) /  
39 / 137 / 30 / 253 / 247 / 256 / 263 / 272 / 275 / 277 /  
  
243 / (Specifically claimed: 144 / 2-thiazolyl / 151 / 158 /  
163 / 169 / 2-thienyl / 175 / 2-pyridyl / 183 / 189 / 195 /  
201 / 313)

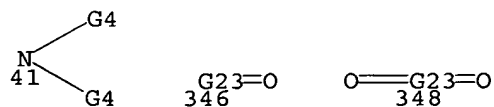




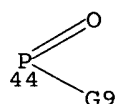
G8 = H / aryl <mono- or bicyclic> / OH /  
 alkoxy (opt. substd. by aryl <mono- or bicyclic> /  
 aryloxy <mono- or bicyclic> / 34 / 37 /  
 heterocycle <containing 1 or more heteroatoms,  
 zero or more N, 5- or 6-membered rings only> (opt. substd.) /  
 47 / 140 / (Specifically claimed: 75 / 2-thiazolyl / 82 /  
 89 / 94 / 100 / 2-thienyl / 106 / 2-pyridyl / 114 / 120 /  
 126 / 132)



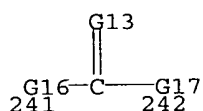
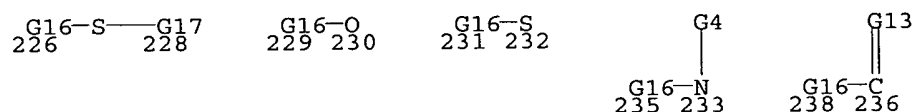
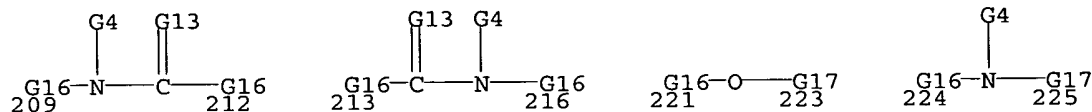
G9 = OH / alkoxy (opt. substd. by aryl <mono- or  
 bicyclic> / aryloxy <mono- or bicyclic> / 41 /  
 heterocycle <containing 1 or more heteroatoms, 1 or more N,  
 attached through 1 or more N, 5- or 6-membered rings only>  
 (opt. substd.) / 346 / 348 / (Specifically claimed: OEt)



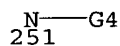
G10 = 44 / SO2



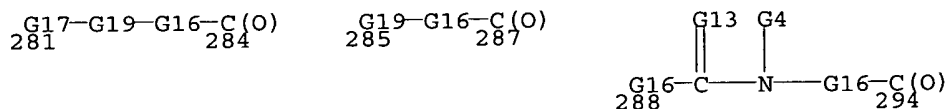
G12 = 229-11 230-31 / 221-11 223-31 / 231-11 232-31 /  
 226-11 228-31 / 235-11 233-31 / 224-11 225-31 /  
 209-11 212-31 / 213-11 216-31 / 238-11 236-31 /  
 241-11 242-31 / G20

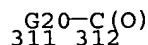
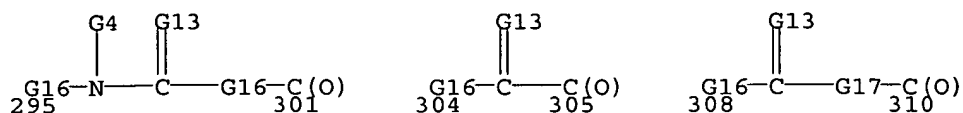


G13 = O / S  
 G14 = NH / S / O  
 G15 = R / OH / Me  
 G16 = (0-2) CH2  
 G17 = (1-2) CH2  
 G18 = alkyl <containing 1-6 C>  
 (opt. substd. by aryl <mono- or bicyclic>) /  
 alkenyl <containing 2-6 C> / alkynyl <containing 2-6 C> / CN  
 G19 = O / S / 251



G20 = (1-4) CH2  
 G21 = 285-11 287-244 / 281-11 284-244 /  
 288-11 294-244 / 295-11 301-244 / 304-11 305-244 /  
 308-11 310-244 / 311-11 312-244





G22 = heterocycle <containing 1 or more heteroatoms,  
zero or more N, 5- or 6-membered rings only> (opt. substd.)

G23 = heterocycle <containing 1 or more heteroatoms,  
1 or more N, attached through 1 or more N,  
5- or 6-membered rings only> (opt. substd.)

Derivative: or pharmaceutically acceptable salts

Patent location: claim 1

Note: substitution is restricted

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L71 ANSWER 109 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 128:89110 MARPAT

TITLE: Preparation of amino acid succinic amide derivatives  
as matrix metalloproteinase inhibitors

INVENTOR(S): Alpegiani, Marco; Abrate, Francesca; Bissolino,  
Pierluigi; Palladino, Massimiliano; Perrone, Ettore

PATENT ASSIGNEE(S): Pharmacia & Upjohn S.P.A., Italy

SOURCE: PCT Int. Appl., 82 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

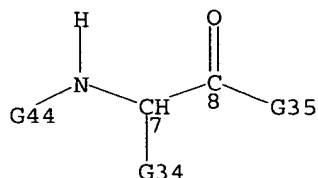
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9749674	A1	19971231	WO 1997-EP3251	19970620
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RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
TW 460441	B	20011021	TW 1997-86108613	19970618
CA 2257404	AA	19971231	CA 1997-2257404	19970620
AU 9733422	A1	19980114	AU 1997-33422	19970620
EP 920414	A1	19990609	EP 1997-929242	19970620
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE, PT, IE, FI				
BR 9709902	A	19990810	BR 1997-9902	19970620
NZ 333550	A	20000728	NZ 1997-333550	19970620
JP 2000514043	T2	20001024	JP 1998-502322	19970620
ZA 9705631	A	19980130	ZA 1997-5631	19970625
NO 9806049	A	19990301	NO 1998-6049	19981222
KR 2000022534	A	20000425	KR 1998-710980	19981226
PRIORITY APPLN. INFO.:				
				GB 1996-13547
				19960627
				WO 1997-EP3251
				19970620

AB Succinic amide derivs. WCH(NRR1)CHR2CONHCHR3COR4 [W = CO2, CONHOH; R = H,  
alkyl, Ph, benzyl; R1 = H, (un)substituted alkyl, aryl, aralkyl;  
heterocyclyl- or cyclopropyl-, or carboxy-(CH2)m (m = 0-3), etc.; RR1N may

be morpholino, pyrrolidino, piperazino, N-methylpiperazino, succinimido, or phthalimido; R2 = H, alkyl, cycloalkyl, etc.; R3 =  $\alpha$ -amino acid residue; R4 = alkoxy, aryloxy, NH2, alkyl- or arylamino, etc.] were prepared as inhibitors of matrix metalloproteinases (MMPs) and of the release of tumor necrosis factor- $\alpha$  (TNF) from cells. Thus, (3S-tert-butoxycarbonylamino-4-hydroxyamino-2R-isobutylsuccinyl)-L-phenylalanine-N-methylamide was prepared from 1-tert-butyldimethylsilyl-4S-carboxyazetidinone, iso-Bu iodide, and L-phenylalanine-N-methylamide tosylate. The product was assayed for inhibition of MMP-1 and TNF ( $K_i$  = 3.6 nM and  $IC_{50}$  = 9.9  $\mu$ M, resp.).

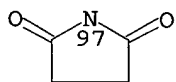
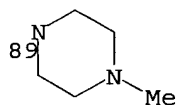
## MSTR 1



G1 = OH / NHOH

G2 = NH2 / 17 / morpholino / pyrrolidino / piperazino /  
89 / 97 / phthalimido

G3—G5  
17



G3 = NH / 19

N—G4  
19

G4 = alkyl <containing 1-6 C> / Ph / CH2Ph

G5 = loweralkyl (opt. substd. by 1 or more G6) /  
aryl <containing 6-10 C, mono- or bicyclic>  
(opt. substd. by 1 or more G6) /  
loweralkyl (substd. by 1 or more G7) / 21 / 25 / 27 / 42 /  
acyl / COMe / CPh / COCH2Ph / 44 / 80 /  
(Examples: SO2C6H4Me-p / 205)

G8—G9  
21

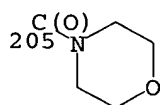
G12—CO2H  
25

G8—C(O)—O—G13  
27

G12—SO3H  
42

C(O)—G15—G23  
44 46

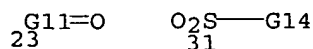
C(O)—G22  
80



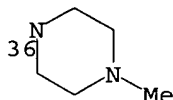
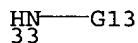
G6 = Me / Et / Pr-i / Bu-t / F / Cl / Br / NO2 / NH2 /  
NMe2 / OH / OMe / OEt / COMe / NHCOMe / CO2H / CH2CO2H



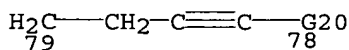
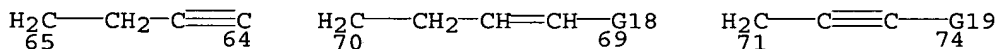
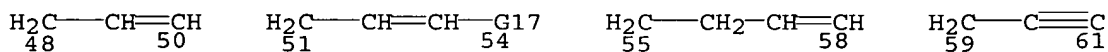
- G7 = aryl <containing 6-10 C, mono- or bicyclic>  
(opt. substd. by 1 or more G6)
- G8 = (0-3) CH<sub>2</sub>
- G9 = heterocycle <containing 3 or more atoms,  
1 or more N, 1-3 rings, (0-1) 3-membered, (0-1) 4-membered,  
(0-1) 5-membered, (0-3) 6-membered rings only>  
(opt. substd. by 1 or more G10) / 23 / cyclopropyl / 31



- G10 = Br / Cl / F / OMe / OEt / Me / Et / CH<sub>2</sub>Ph / Ph /  
OH / CO<sub>2</sub>H / NO<sub>2</sub>
- G11 = heterocycle <containing 3 or more atoms,  
1 or more N, 1-3 rings, (0-1) 3-membered, (0-1) 4-membered,  
(0-1) 5-membered, (0-3) 6-membered rings only>  
(opt. substd. by 1 or more G10)
- G12 = (1-3) CH<sub>2</sub>
- G13 = Me / Et / Pr-n / Pr-i / Bu-i / Bu-t / Ph / CH<sub>2</sub>Ph /  
CH<sub>2</sub>CH=CH<sub>2</sub> / CH=CHPh / naphthyl
- G14 = Me / Et / Pr-n / Pr-i / Bu-i / Bu-t / Ph / CH<sub>2</sub>Ph /  
CH<sub>2</sub>CH=CH<sub>2</sub> / CH=CHPh / naphthyl / NH<sub>2</sub> / NMe<sub>2</sub> / 33 /  
morpholino / piperazino / 36



- G15 = bond / G16 / CH=CH / 48-44 50-46 / phenylene /  
51-44 54-46 / 55-44 58-46 / 59-44 61-46 / 65-44 64-46 /  
70-44 69-46 / 71-44 74-46 / 79-44 78-46



- G16 = (1-5) CH<sub>2</sub>
- G17 = phenylene
- G18 = phenylene
- G19 = phenylene
- G20 = phenylene
- G21 = Me / Et / Ph / OH / OMe / OEt / NH<sub>2</sub> / NHMe / NMe<sub>2</sub> /  
morpholino
- G22 = heterocycle <containing 3 or more atoms,  
1 or more N, 1-3 rings, (0-1) 3-membered, (0-1) 4-membered,  
(0-1) 5-membered, (0-3) 6-membered rings only>  
(opt. substd. by 1 or more G10) / 82

$\text{G11}=\text{O}$   
82

G23 = 84 / heterocycle <containing 3 or more atoms,  
1 or more N, 1-3 rings, (0-1) 3-membered, (0-1) 4-membered,  
(0-1) 5-membered, (0-3) 6-membered rings only>  
(opt. substd. by 1 or more G10) / 86 /  
aryl <containing 6-10 C, mono- or bicyclic>  
(opt. substd. by 1 or more G10)

$\text{C}(\text{O})\text{G21}$        $\text{G24}=\text{O}$   
84                      86

G24 = heterocycle <containing 3 or more atoms,  
1 or more N, 1-3 rings, (0-1) 3-membered, (0-1) 4-membered,  
(0-1) 5-membered, (0-3) 6-membered rings only>  
(opt. substd. by 1 or more G10) /  
carbocycle <containing 6-10 C, aromatic,  
6 or more normalized bonds, mono- or bicyclic>  
(opt. substd. by 1 or more G10)  
G25 = alkyl <containing 3-15 C>  
(opt. substd. by cycloalkyl <containing 3-7 C>) / 132

$\text{G26}-\text{G27}$   
132 133

G26 = **bond** / G16 / CH=CH / 134-4 136-133 / phenylene /  
137-4 140-133 / 141-4 144-133 / 145-4 147-133 /  
151-4 150-133 / 156-4 155-133 / 157-4 160-133 /  
165-4 164-133

$\text{H}_2\text{C}-\text{CH}=\text{CH}$        $\text{H}_2\text{C}-\text{CH}=\text{CH}-\text{G28}$        $\text{H}_2\text{C}-\text{CH}_2-\text{CH}=\text{CH}$   
134                      136                      137                      140                      141                      144

$\text{H}_2\text{C}-\text{C}\equiv\text{C}$        $\text{H}_2\text{C}-\text{CH}_2-\text{C}\equiv\text{C}$        $\text{H}_2\text{C}-\text{CH}_2-\text{CH}=\text{CH}-\text{G29}$   
145                      147                      151                      150                      156                      155

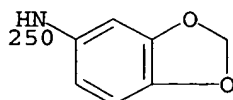
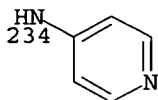
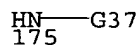
$\text{H}_2\text{C}-\text{C}\equiv\text{C}-\text{G30}$        $\text{H}_2\text{C}-\text{CH}_2-\text{C}\equiv\text{C}-\text{G31}$   
157                      160                      165                      164

G27 = H / alkyl <containing 1-6 C> (opt. substd. by G32) /  
cycloalkyl <containing 3-7 C> (opt. substd.) /  
alkenyl <containing 2-6 C> (opt. substd. by G32) /  
Ph (opt. substd.) / 166 / 168 / 171

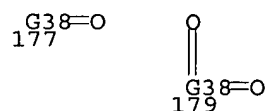
$\text{G33}-\text{G43}$        $\text{C}(\text{O})\text{NH}-\text{G43}$        $\text{HN}-\text{C}(\text{O})-\text{G43}$   
166                      168                      171

G28 = phenylene  
G29 = phenylene

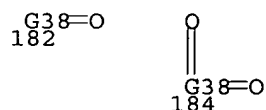
- G30 = phenylene  
 G31 = phenylene  
 G32 = R / Ph (opt. substd.)  
 G33 = O / S / S(O) / SO<sub>2</sub>  
 G34 = H / R <"optionally protected amino acid side chain">  
 / (Examples: CH<sub>2</sub>Ph / Bu-t)  
 G35 = alkoxy <containing 1-4 C> / OMe / OEt / OBu-t /  
 OPh (opt. substd. by (1-3) G36) / NH<sub>2</sub> /  
 alkylamino <containing 1-6 C> (opt. substd. by G39) / 175 /  
 alkylamino <containing 2-6 C> (substd. by G40) /  
 (Examples: 234 / 250)



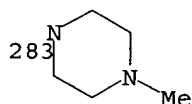
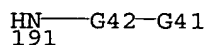
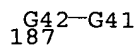
- G36 = alkyl <containing 1-4 C> / Cl / OMe  
 G37 = aryl <containing 6-10 C, mono- or bicyclic> /  
 heterocycle <containing 3 or more atoms, zero or more O,  
 zero or more S, zero or more N (no other heteroatoms),  
 1-3 rings> / 177 / 179



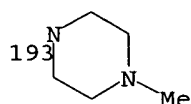
- G38 = heterocycle <containing 3 or more atoms,  
 zero or more O, zero or more S,  
 zero or more N (no other heteroatoms), 1-3 rings>  
 G39 = Ph / heterocycle <containing 3 or more atoms,  
 zero or more O, zero or more S,  
 zero or more N (no other heteroatoms), 1-3 rings> / 182 /  
 184



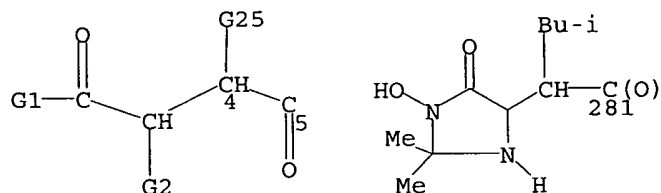
- G40 = 187 / 191 / NH<sub>2</sub> (opt. substd.) /  
 alkylamino <containing 1-6 C> /  
 dialkylamino <each alkyl containing 1-6 C> / NHC(NH)NH<sub>2</sub> /  
 morpholino / piperazino / 283



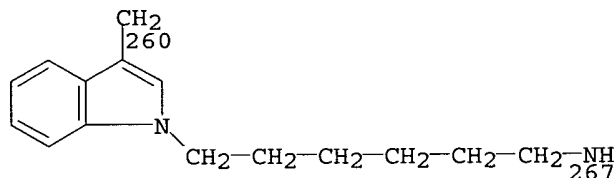
- G41 = NH<sub>2</sub> / NHMe / NMe<sub>2</sub> / morpholino / pyrrolidino /  
 piperazino / 193



G42 = C(O) / SO<sub>2</sub>  
 G43 = H / alkyl <containing 1-6 C> (opt. substd. by G32) /  
 cycloalkyl <containing 3-7 C> (opt. substd.) /  
 alkenyl <containing 2-6 C> (opt. substd. by G32) /  
 Ph (opt. substd.)  
 G44 = 5 / H / (Example: 281)



G34+G35= R <"group to form ring"> / (Example: 260-7 267-8 )



Derivative: and salts, prodrugs, solvates and hydrates, or  
 protected derivatives  
 Patent location: claim 1  
 Note: additional substitution also claimed  
 Note: substitution is restricted  
 Note: also incorporates claim 7

L71 ANSWER 110 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 128:61378 MARPAT  
 TITLE: synthesis and antibactericidal activity of  
 diazacyclobutindene beta-lactams  
 INVENTOR(S): Bohringer, Markus; Pflieger, Philippe  
 PATENT ASSIGNEE(S): F. Hoffmann-La Roche A.-G., Switz.  
 SOURCE: PCT Int. Appl., 97 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9745429	A1	19971204	WO 1997-EP2467	19970514
W: AU, BR, CA, CN, CZ, HU, IL, JP, KR, MX, NO, NZ, PL, RU, SG, TR, YU				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				

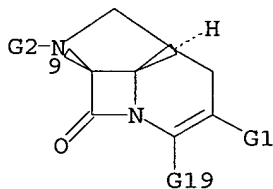
CA 2254943	AA	19971204	CA 1997-2254943	19970514
AU 9729548	A1	19980105	AU 1997-29548	19970514
EP 912574	A1	19990506	EP 1997-923895	19970514
R: DE, ES, FR, GB, IT				
JP 2000510854	T2	20000822	JP 1997-541485	19970514
US 6218379	B1	20010417	US 1997-857280	19970516
ZA 9704333	A	19971124	ZA 1997-4333	19970519

PRIORITY APPLN. INFO.:

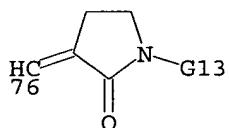
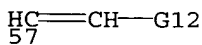
EP 1996-108309	19960524
WO 1997-EP2467	19970514

AB Synthesis  $\beta$ -lactams (I) which differ from known  $\beta$ -lactams by the residue Q [Q = Q1, Q2; R3 = aryl or heterocyclcyl; R2=R4 = H, OH, (cyclo)alkyl, alkoxy, (cyclo)alkenyl, alkynyl, aralkyl, aryl, aryloxy, aralkoyloxy, heterocyclcyl or heterocyclcylalkyl, with lower (cyclo)alkyl, lower alkoxy, lower (cyclo)alkenyl, aralkyl, aryl, aryloxy, aralkoyloxy or the heterocyclclic ring being (un)substituted by CO2H, NH2, NO2, CN, alkyl, benzyl, alkoxy, OH, halogen, CONR5R6, CH2CONR5R6, N(R6)CO2R7, R6CO, R6O2C or R6CO2; R5 = H, alkyl or cycloalkyl; R6 = H, alkyl; R7 = H, alkyl, alkenyl, carboxylic acid protecting group] and pharmaceutically compatible, readily hydrolyzable esters and salts of these compds is described. Thus, the sodium salt of I (R2 = F3CCO, R4 = CH2-2-thiophenyl) (II) is prepared in 10 steps by reacting benzyl (1S,5S)-6-(3,4-dimethoxybenzyl)-4,7-dioxo-2,6-diazabicyclo[3.3.0]heptane-2-carboxylate with 1-[2-(trimethylsilyl)ethoxy]-3-triphenylphosphoranylidene-propan-2-one, transesterification of benzyl ester to tert-Bu ester, benzyl deprotection, cyclization to diazacyclobut[cd]indene, deprotection, decarboxylation, oxidation of the resulting alc. to carboxaldehyde, Wittig olefination with triphenyl-(1-thiophen-2-ylmethyl-2-oxo-pyrrolidin-3-yl)phosphonium bromide, conversion to trifluoroacetate salt followed by conversion to sodium salt. II showed IC 50 of 0,011  $\mu$ M for  $\beta$ -lactamase inhibition against *Citrobacter freundii*.

## MSTR 1

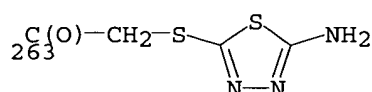
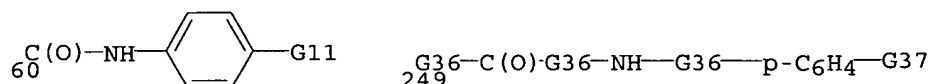
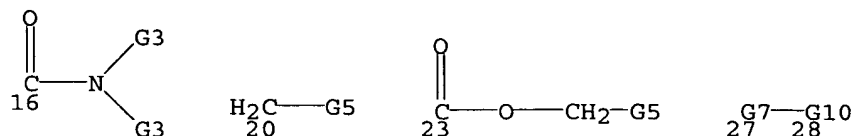


G1 = 57 / 76

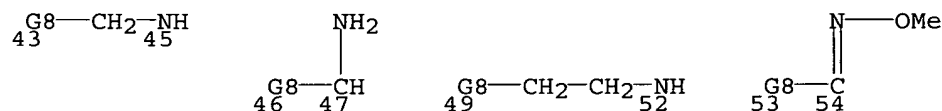
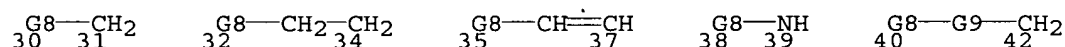


G2 = H / alkyl <containing up to 7 C>  
 (opt. substd. by G4) / cycloalkyl <containing 3-6 C>  
 (opt. substd. by G4) / 20 / 23 / CHO /  
 alkylcarbonyl <containing up to 7 C>  
 (opt. substd. by 1 or more G6) /  
 cycloalkylcarbonyl <containing 3-6 C>  
 (opt. substd. by 1 or more G6) /  
 alkylsulfonyl (opt. substd. by 1 or more G6) / 16 / 27 /

R <"protecting group"> / (Specifically claimed: 60 / COMe / COCF3) / (Examples: CO2Bu-t / 249 / 263)

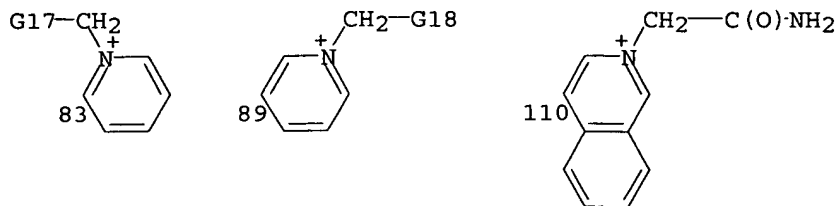


- G3 = alkyl <containing up to 7 C> / (opt. substd. by alkoxy carbonyl <containing up to 7 C>) / cycloalkyl <containing 3-6 C> / alkyl <containing up to 7 C> (substd. by CO2CH2Ph) / alkyl <containing up to 7 C> (substd. by CO2H) / Ph (substd. by OH) / Ph (substd. by CONH2)
- G4 = CO2H / alkoxy carbonyl <containing up to 7 C> / CONH2 / alkylaminocarbonyl <containing up to 7 C> / CONHPh (opt. substd. by OH)
- G5 = alkenyl <containing up to 7 C>
- G6 = F / Cl / Br / I / CN / alkoxy <containing up to 7 C> (substd. by CONH2) / alkylthio <containing up to 7 C> (substd. by CONH2) / alkylamino <containing up to 7 C> (substd. by CONH2)
- G7 = C(O) / SO2 / 30-9 31-28 / 32-9 34-28 / 35-9 37-28 / 38-9 39-28 / 40-9 42-28 / 43-9 45-28 / 46-9 47-28 / 49-9 52-28 / 53-9 54-28

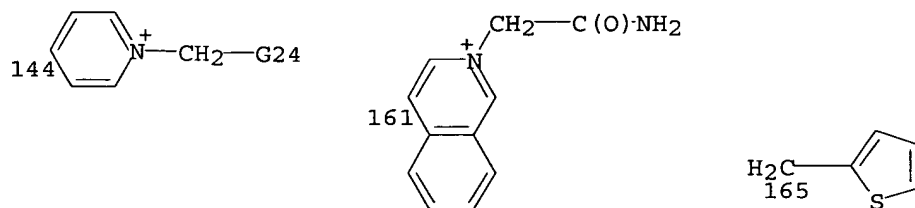
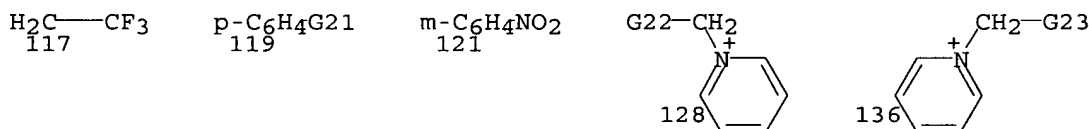


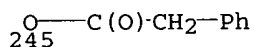
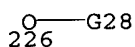
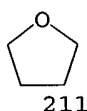
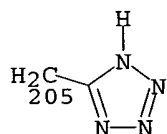
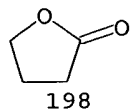
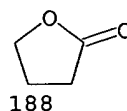
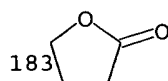
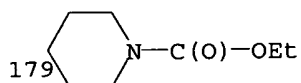
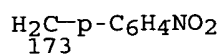
- G8 = C(O) / SO2
- G9 = NH / O / S
- G10 = carbocycle (opt. substd. by 1 or more G25) / heterocycle <containing zero or more N, zero or more O, zero or more S (no other heteroatoms)> (opt. substd. by 1 or more G25)
- G11 = OH / CONH2
- G12 = aryl (opt. substd.) / heterocycle <containing zero or more N, zero or more O, zero or more S (no other

heteroatoms), optional positive charge>  
 (opt. substd. by 1 or more G26) /  
 (Specifically claimed: Ph (opt. substd. by G16) / pyridyl /  
 quinolinyl / 89 / 83) / (Examples: 110 / naphthyl /  
 anthracenyl / phenanthryl)

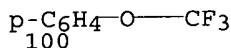
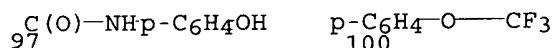


G13 = H / OH / alkyl <containing up to 7 C>  
 (opt. substd. by 1 or more G14) /  
 cycloalkyl <containing 3-6 C> (opt. substd. by 1 or more G29)  
 / alkoxy <containing up to 7 C>  
 (opt. substd. by 1 or more G29) /  
 alkenyl <containing up to 7 C> (opt. substd. by 1 or more  
 G29) / cycloalkenyl <containing 3-7 C>  
 (opt. substd. by 1 or more G29) /  
 alkynyl <containing up to 7 C> /  
 aryl (opt. substd. by 1 or more G29) /  
 aryloxy (opt. substd. by 1 or more G29) /  
 alkylcarbonyloxy <containing up to 7 C>  
 (substd. by 1 or more G14) / heterocycle <containing zero or  
 more N, zero or more O, zero or more S (no other heteroatoms)  
 , optional positive charge> (opt. substd. by 1 or more G29) /  
 alkyl (substd. by G15) / (Specifically claimed: 117 / Bu-i /  
 cyclopropyl / 119 / 173 / 121 / pyridyl / quinolinyl / 165 /  
 179 / pyrazinyl / pyridazinyl / 2-pyrimidinyl /  
 thiadiazolyl / 183 / 188 / 198 / 205 / 2-tetrahydrofuryl /  
 211 / benzimidazolyl) / (Examples: 128 / 136 / 144 / 161 /  
 Ph (substd. by 1 or more G27) / naphthyl / anthracenyl /  
 phenanthryl / 226 / CH2Ph / 245)

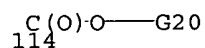




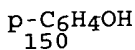
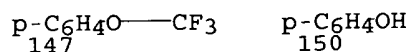
- G14 = aryl (opt. substd. by 1 or more G29) / R /  
(Examples: Ph (substd. by 1 or more G27) / naphthyl /  
anthracenyl / phenanthryl)
- G15 = heterocycle <containing zero or more N,  
zero or more O, zero or more S (no other heteroatoms),  
optional positive charge> (opt. substd.)
- G16 = R / (Specifically claimed: OH) / (Examples: F / Cl /  
Br / I / CN / NO<sub>2</sub> / alkyl <containing up to 7 C> /  
alkoxy <containing up to 7 C>)
- G17 = Ph / CONH<sub>2</sub>
- G18 = Ph / CONH<sub>2</sub> / 97 / CH=CHPh / 100



- G19 = CO<sub>2</sub>H / carboxylate / 114 / (Example: CO<sub>2</sub>Bu-t)

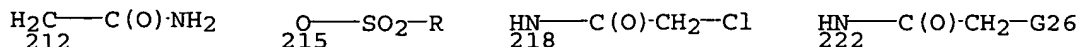


- G20 = R <"protecting group">
- G21 = H / OH
- G22 = Ph
- G23 = Ph / 147 / CONH<sub>2</sub> / 150

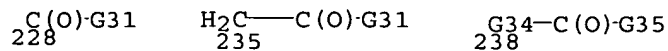


- G24 = Ph / CONH<sub>2</sub>
- G25 = R / (Examples: alkyl <containing up to 7 C> /  
alkoxy <containing up to 7 C> /  
alkylthio <containing up to 7 C> / OH / CONH<sub>2</sub> / 212 /  
NHCONH<sub>2</sub> / SO<sub>2</sub>NH<sub>2</sub> / alkoxycarbonyl <containing 1-6 C> / CHO /  
215 / F / Cl / Br / I / NH<sub>2</sub> / NHMe / NMe<sub>2</sub> / 218 / 222)

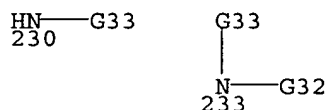




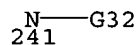
- G26 = R / (Examples: alkyl <containing up to 7 C> (opt. substd. by 1 or more G30) / alkoxy <containing up to 7 C> / F / Cl / Br / I / NH<sub>2</sub> / SH / OH / CONH<sub>2</sub> / CO<sub>2</sub>H)
- G27 = R / F / Cl / Br / I / OH / CN / NO<sub>2</sub> / alkyl <containing up to 7 C> / alkoxy <containing up to 7 C>
- G28 = Ph (substd. by 1 or more G27) / naphthyl / anthracenyl / phenanthryl
- G29 = CO<sub>2</sub>H / NH<sub>2</sub> / NO<sub>2</sub> / CN / alkyl <containing up to 7 C> / CH<sub>2</sub>Ph / alkoxy <containing up to 7 C> / OH / F / Cl / Br / I / 228 / 235 / 238 / CHO / alkylcarbonyl <containing up to 7 C> / CO<sub>2</sub>H / alkoxy carbonyl <containing up to 7 C> / OCHO / alkylcarbonyloxy <containing up to 7 C>



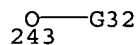
- G30 = F / Cl / Br / I
- G31 = NH<sub>2</sub> / 230 / 233



- G32 = alkyl <containing up to 7 C>
- G33 = alkyl <containing up to 7 C> / cycloalkyl <containing 3-6 C>
- G34 = NH / 241



- G35 = OH / 243



- G36 = (0-1) CH<sub>2</sub>

- G37 = H / OH / CONH<sub>2</sub> / SO<sub>2</sub>NH<sub>2</sub>

Derivative: and pharmaceutically compatible, readily hydrolyzable esters and salts

Patent location: claim 1

Note: also incorporates claim 6, structure II

Note: additional oxo formation also disclosed

L71 ANSWER 111 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 127:176722 MARPAT

TITLE: Preparation of arginine dipeptide mimics as integrin receptor antagonists

INVENTOR(S): Hartman, George D.; Perkins, James J.; Duggan, Mark E.; Hunt, Cecilia A.; Krause, Amy E.; Ihle, Nathan C.; Askew, Ben; Hutchinson, John; Stagliano, Karen

PATENT ASSIGNEE(S): Merck & Co., Inc., USA; Hartman, George D.; Perkins, James J.; Duggan, Mark E.; Hunt, Cecilia A.; Krause, Amy E.; Ihle, Nathan C.; Askew, Ben; Hutchinson, John; Stagliano, Karen

SOURCE: PCT Int. Appl., 217 pp.  
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

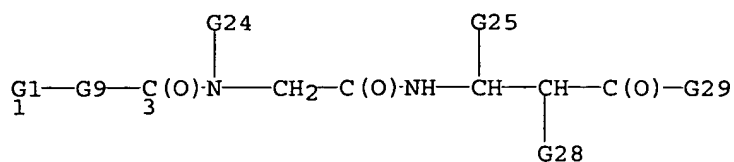
FAMILY ACC. NUM. COUNT: 1

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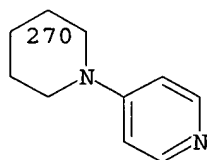
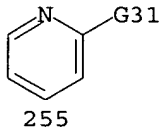
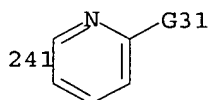
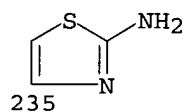
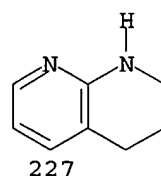
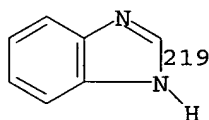
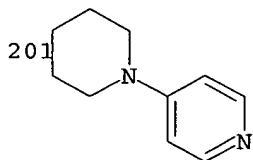
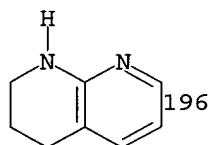
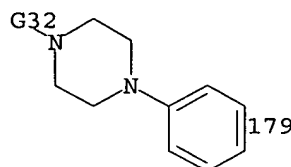
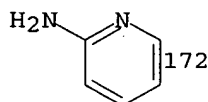
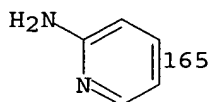
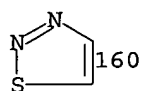
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RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2242877	AA	19970724	CA 1997-2242877	19970113
AU 9716990	A1	19970811	AU 1997-16990	19970113
AU 713676	B2	19991209		
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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI				
JP 2000516197	T2	20001205	JP 1997-526121	19970113
US 5952306	A	19990914	US 1997-783635	19970114
PRIORITY APPLN. INFO.:				
			US 1996-9965P	19960116
			GB 1996-3373	19960216
			WO 1997-US572	19970113

AB Fibrinogen receptor antagonists I [X = 5- or 6-membered monocyclic aromatic ring or 9-10 membered polycyclic aromatic ring system containing 0-4 heteroatoms  
O, N, S (un)substituted with R1 and R2; R1, R2 = independently H, halo, C1-10 alkyl, C3-8 cycloalkyl, aryl, aryl-C1-8 alkyl, amino, C1-3 acylamino, C1-6 alkylamino, C1-6 dialkylamino, C1-4 alkoxy, carboxy, C1-3 alkoxy-carbonyl, carboxy-C1-6 alkoxy, OH, etc.; Y = (CH2)0-6, C.tplbond.C, CH:CH, CO, CR7NHR6, NR2, O, SO2NH, NHSO2, NR2CO, CONR8, S(O)0-2CH2, phenylene, 1,4-cyclohexanedyl, 2,5-furyl, 2,5-thiophenyl, Q-Q2; R3, R4 = independently H, optionally substituted 5-6 membered mono- or polycyclic arom ring containing 0-4 N, O, or S atoms; R5 = H, F, C1-8 alkyl, OH, carboxy, aryl, amino, etc.; R6, R7 = independently H, C1-8 alkyl, aryl, OH, C1-8 alkoxy, aryloxy, etc; n, m = 0-6], for example II, are claimed as compds. useful for inhibiting the binding of fibrinogen to blood platelets and for inhibiting the aggregation of blood platelets. Thus, N-acylation of N-cyclopropylglycine Et ester (preparation given) with 4-(2-tert-butoxycarbonylamino-4-pyridyl)butanoic acid (preparation given), followed by saponification and peptide coupling with Et (R)-3-amino-6-phenylhexanoate and acidic deprotection give II. Procedures for i.v. formulations and therapeutic treatments are given. Selected compds. I were tested and shown to bind to human integrin  $\alpha\text{v}\beta 3$  with EIB <1000 nM.

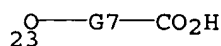
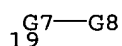
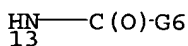
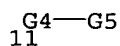
MSTR 1



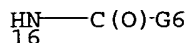
G1 = aryl <containing 6-10 C, mono- or polycyclic>  
 (opt. substd. by 1 or more G2) /  
 heteroaryl <containing 5-10 atoms, 1-8 heteroatoms,  
 zero or more O, zero or more S,  
 zero or more N (no other heteroatoms), mono- or polycyclic>  
 (opt. substd. by 1 or more G2) / (Specifically claimed: 160 /  
 2-pyridyl / 165 / 172 / 179 / 196 / 4-pyridyl / 201 / 219 /  
 227 / 235 / 241 / 255 / 270)



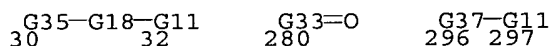
G2 = F / Cl / Br / I / alkyl <containing 1-10 C> /  
 alkenyl <containing 2-10 C> / alkynyl <containing 2-10 C> /  
 cycloalkyl <containing 3-8 C> /  
 Ph (opt. substd. by 1 or more G3) /  
 heteroaryl <containing 1-2 heteroatoms, zero or more O,  
 zero or more S, zero or more N (no other heteroatoms),  
 monocyclic> (opt. substd. by 1 or more G3) / 11 / NH<sub>2</sub> / 13 /  
 alkylamino <containing 1-6 C> /  
 dialkylamino <each alkyl containing 1-6 C> /  
 alkoxy <containing 1-4 C> / alkenyloxy <containing 2-4 C> /  
 alkynyloxy <containing 2-4 C> / 19 / CO<sub>2</sub>H /  
 alkoxycarbonyl <containing 1-3 C> / 23 / OH



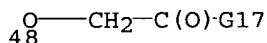
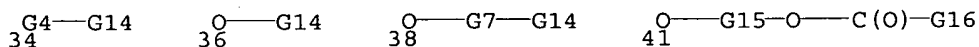
- G3 = F / Cl / Br / I / NH<sub>2</sub>  
 G4 = alkylene <containing 1-8 C> /  
       alkenylene <containing 2-8 C> /  
       alkynylene <containing 2-8 C>  
 G5 = Ph (opt. substd. by 1 or more G3) /  
       heteroaryl <containing 1-2 heteroatoms, zero or more O,  
       zero or more S, zero or more N (no other heteroatoms),  
       monocyclic> (opt. substd. by 1 or more G3) / NH<sub>2</sub> / 16 /  
       alkylamino <containing 1-6 C> /  
       dialkylamino <each alkyl containing 1-6 C>



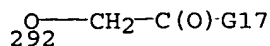
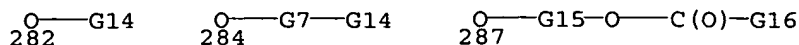
- G6 = H / Me / Et  
 G7 = alkylene <containing 1-6 C> /  
       alkenylene <containing 2-6 C> /  
       alkynylene <containing 2-6 C>  
 G8 = alkoxy <containing 1-4 C> /  
       alkenyloxy <containing 2-4 C> /  
       alkynyloxy <containing 2-4 C> / CO<sub>2</sub>H /  
       alkoxycarbonyl <containing 1-3 C> / OH  
 G9 = G10 / 30-1 32-3 / 296-1 297-3 /  
       carbon chain <containing 2-14 C, 0-1 double bond,  
       0-1 triple bond> / carbon chain <0 or more double bonds,  
       0 or more triple bonds> (substd. by (1-2) G34) / 280



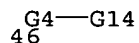
- G10 = (0-18) CH<sub>2</sub>  
 G11 = (0-6) CH<sub>2</sub>  
 G12 = H / alkyl <containing 1-8 C> /  
       alkenyl <containing 2-8 C> / alkynyl <containing 2-8 C> /  
       Ph (opt. substd. by 1 or more G3) /  
       heteroaryl <containing 1-2 heteroatoms, zero or more O,  
       zero or more S, zero or more N (no other heteroatoms),  
       monocyclic> (opt. substd. by 1 or more G3) / 34 / OH /  
       alkoxy <containing 1-8 C> / alkenyloxy <containing 2-8 C> /  
       alkynyloxy <containing 2-8 C> / 36 / 38 / 41 / 48



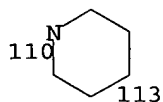
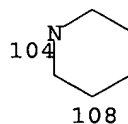
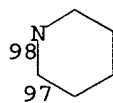
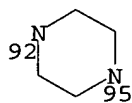
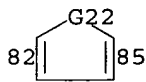
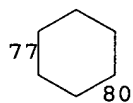
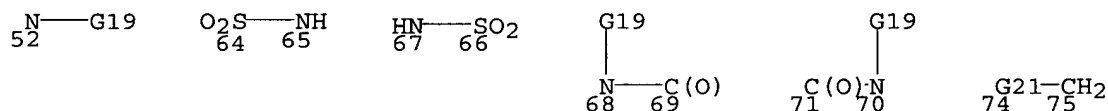
- G13 = Ph (opt. substd. by 1 or more G3) /  
       heteroaryl <containing 1-2 heteroatoms, zero or more O,  
       zero or more S, zero or more N (no other heteroatoms),  
       monocyclic> (opt. substd. by 1 or more G3) / OH /  
       alkoxy <containing 1-8 C> / alkenyloxy <containing 2-8 C> /  
       alkynyloxy <containing 2-8 C> / 282 / 284 / 287 / 292



- G14 = Ph (opt. substd. by 1 or more G3) /  
heteroaryl <containing 1-2 heteroatoms, zero or more O,  
zero or more S, zero or more N (no other heteroatoms),  
monocyclic> (opt. substd. by 1 or more G3)
- G15 = alkylene <containing 1-4 C> /  
alkenylene <containing 2-4 C> /  
alkynylene <containing 2-4 C>
- G16 = alkyl <containing 1-8 C> /  
alkenyl <containing 2-8 C> / alkynyl <containing 2-8 C> / 46

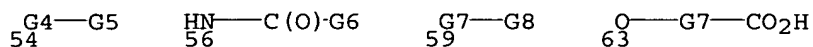


- G17 = alkylamino <containing 1-8 C> /  
dialkylamino <each alkyl containing 1-8 C>
- G18 = 52 / O / 64-30 65-32 / 67-30 66-32 /  
68-30 69-32 / 71-30 70-32 / 74-30 75-32 / phenylene /  
77-30 80-32 / 82-30 85-32 / heterocycle <containing 1-2  
heteroatoms, 1-2 N (no other heteroatoms), 4-5 C,  
non-aromatic, saturated, 6-membered monocyclic ring>  
(opt. substd. by (1-2) G2) / 92-30 95-32 / 98-30 97-32 /  
104-30 108-32 / 110-30 113-32

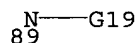


- G19 = H / F / Cl / Br / I / alkyl <containing 1-10 C> /  
alkenyl <containing 2-10 C> / alkynyl <containing 2-10 C> /  
cycloalkyl <containing 3-8 C> /  
Ph (opt. substd. by 1 or more G3) /  
heteroaryl <containing 1-2 heteroatoms, zero or more O,  
zero or more S, zero or more N (no other heteroatoms),

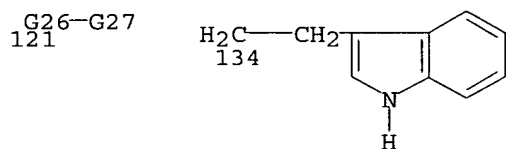
monocyclic> (opt. substd. by 1 or more G3) / 54 / NH2 / 56 /  
 alkylamino <containing 1-6 C> /  
 dialkylamino <each alkyl containing 1-6 C> /  
 alkoxy <containing 1-4 C> / alkenyloxy <containing 2-4 C> /  
 alkynyloxy <containing 2-4 C> / 59 / CO2H /  
 alkoxycarbonyl <containing 1-3 C> / 63 / OH /  
 (Specifically claimed: CH2CH2Ph / Me)



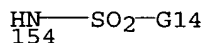
G21 = S / S(O) / SO2  
 G22 = O / 89 / S



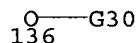
G24 = H / R / (Specifically claimed: Me / cyclopropyl / CH2CH2Ph)  
 G25 = H / aryl <mono- or polycyclic> (opt. substd.) /  
 heteroaryl <containing 1-4 heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 mono- or polycyclic> (opt. substd.) / 121 / R /  
 carbon chain <0 or more double bonds, 0 or more triple bonds>  
 (opt. substd.) / (Specifically claimed: Me / 134 / CH2CH2Ph /  
 3-pyridyl / ethynyl)



G26 = (1-4) CH2  
 G27 = aryl <mono- or polycyclic> (opt. substd.) /  
 heteroaryl <containing 1-4 heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 mono- or polycyclic> (opt. substd.)  
 G28 = H / R / 154

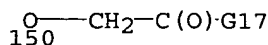
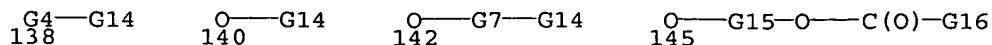


G29 = OH / 136

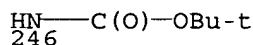


G30 = alkyl <containing 1-8 C> /  
 alkenyl <containing 2-8 C> / alkynyl <containing 2-8 C> /  
 Ph (opt. substd. by 1 or more G3) /  
 heteroaryl <containing 1-2 heteroatoms, zero or more O,  
 zero or more S, zero or more N (no other heteroatoms),  
 monocyclic> (opt. substd. by 1 or more G3) / 138 / OH /  
 alkoxy <containing 1-8 C> / alkenyloxy <containing 2-8 C> /

alkynyloxy <containing 2-8 C> / 140 / 142 / 145 / 150 /  
(Specifically claimed: Me / Et / Bu-t / CH<sub>2</sub>Ph)



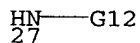
G31 = 246 / NH<sub>2</sub>



G32 = H / CO<sub>2</sub>Bu-t

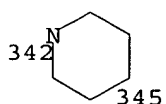
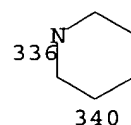
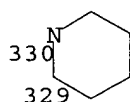
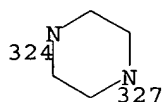
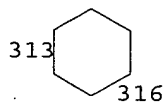
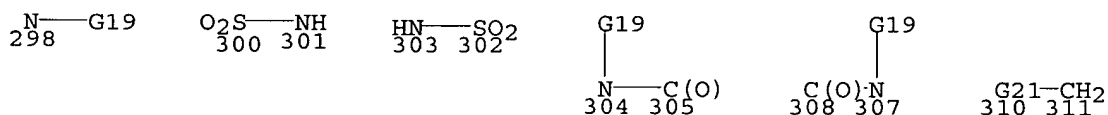
G33 = carbon chain <containing 1-13 C, saturated>

G34 = (1) 27 / (up to 1) G13



G35 = (1-6) CH<sub>2</sub>

G37 = 298 / O / 300-1 301-297 / 303-1 302-297 /  
304-1 305-297 / 308-1 307-297 / 310-1 311-297 /  
phenylene / 313-1 316-297 / 318-1 321-297 /  
heterocycle <containing 1-2 heteroatoms,  
1-2 N (no other heteroatoms), 4-5 C, non-aromatic,  
saturated, 6-membered monocyclic ring>  
(opt. substd. by (1-2) G2) / 324-1 327-297 /  
330-1 329-297 / 336-1 340-297 / 342-1 345-297



Derivative:  
Patent location:

and pharmaceutically acceptable salts  
claim 1

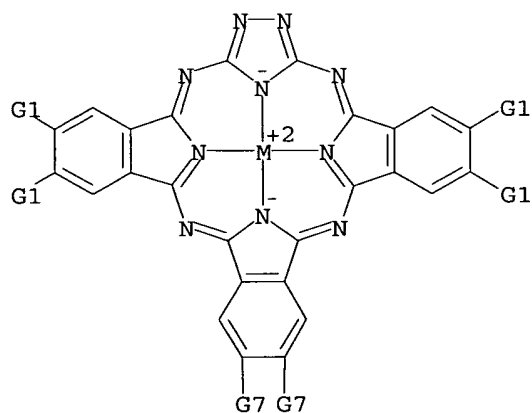
L71 ANSWER 112 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 127:89798 MARPAT  
 TITLE: Process for preparing metalloazaporphyrins, analogs of  
 phthalocyanine, useful as molecular metals.  
 INVENTOR(S): Torres Cebada, Tomas; Cabezon Lopez, Beatriz;  
 Rodriguez Morgade, Salome  
 PATENT ASSIGNEE(S): Universidad Autonoma De Madrid, Spain  
 SOURCE: Span., 11 pp.  
 CODEN: SPXXAD  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Spanish  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
ES 2095798	A1	19970216	ES 1994-1179	19940530
ES 2095798	B1	19971216		

PRIORITY APPLN. INFO.: ES 1994-1179 19940530

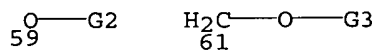
AB Metalloazaporphyrins I [R1, R2 = H, alkyl, alkoxy, etc.; R6, R7 = same definition as R1, R2, or NO2, CN, COOH, NH2, etc.; M = transition metal], useful as mol. metals, (no data), are prepared by the reaction of transition metal complexes of 3,5-bis(3-imino-1-isoindolideneamino)-1,2,4-triazole [II; M = divalent cation of a transition metal, e.g., Ni(II), Cu(II)] with a 1,3-diiminoisoindoline derivative (III). Thus, a mixture of 3,5-bis(3-imino-1-isoindolideneamino)-1,2,4-triazole and nickel(II) acetate in 2-ethoxyethanol was heated at 80° for 90 min to give II [M = Ni, R1 = R2 = H], which was reacted with 1,3-diiminoisoindoline in 2-ethoxyethanol at 50° for 24 h to give I [R1 = R2 = R6 = R7 = H, M = Ni].

# MSTR 1



G13

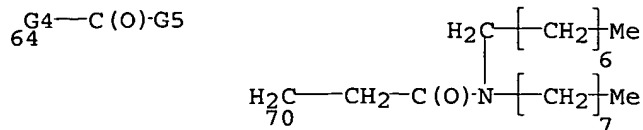
G1 = H / alkyl <containing 1-16 C> / Me / Pr-i / Bu-t / octyl / dodecyl / hexadecyl / 59 / 61



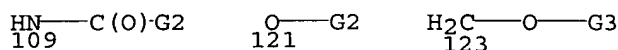
G2 = H / alkyl <containing 1-16 C> / Me / dodecyl / 64 /



70



G3 = H / alkyl <containing 1-16 C> / dodecyl  
 G4 = (1-3) CH2  
 G5 = NH2 / alkylamino <containing 1-16 C> /  
 dialkylamino <each alkyl containing 1-16 C>  
 G7 = H / H / alkyl <containing 1-16 C> / Me / Pr-i /  
 Bu-t / octyl / dodecyl / hexadecyl / 121 / 123 / NO2 / CN /  
 CO2H / NH2 / 109 / OH



G13 = Ni / Cu

Patent location:

Note:

claim 1

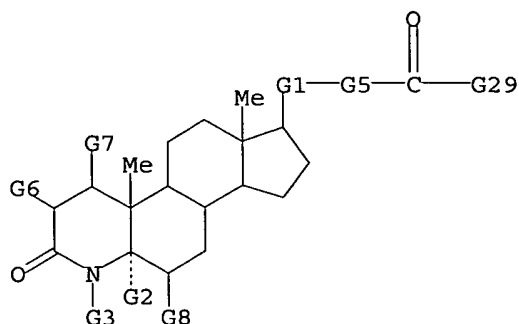
additional ring formation also claimed at G1 and G7 groups

L71 ANSWER 113 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 126:225449 MARPAT  
 TITLE: 4-azasteroid ester derivatives as 5 $\alpha$ -reductase inhibitors  
 INVENTOR(S): Witzel, Bruce E.; Rasmusson, Gary H.; Tolman, Richard L.; Yang, Shu Shu  
 PATENT ASSIGNEE(S): Merck and Co., Inc., USA  
 SOURCE: U.S., 14 pp., Cont.-in-part of U.S. Ser. No. 886,022, abandoned.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

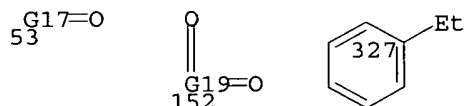
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5610162	A	19970311	US 1994-338573	19941117
WO 9323041	A1	19931125	WO 1993-US4771	19930519
W: AU, BB, BG, BR, CA, CZ, FI, HU, JP, KR, KZ, LK, MG, MN, MW, NO, NZ, PL, RO, RU, SD, SK, UA, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
PRIORITY APPLN. INFO.:			US 1992-886022	19920520
			WO 1993-US4771	19930519

AB 4-Azasteroids I [bonds a = b = single; a = single, b = double; a = double, b = single; R1 = H, (un)substituted alkyl, Ph, naphthyl; R2 = H, absent; R3 = H, Me, Et, OH, NH2, SMe; n = 0-10; X = O, S; R4 = amino] are inhibitors of the 5 $\alpha$ -reductase enzymes and isoenzymes. Thus, carbamate II (R5 = CONHMe3) was prepared via acylation of II (R5 = H) with Me3CNCO in C6H6 containing DBU. I are useful for the treatment of hyperandrogenic disease conditions and diseases of the skin and scalp.

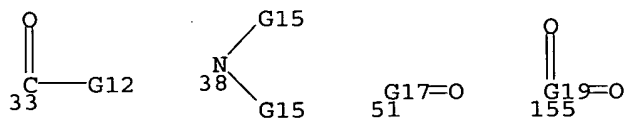
## MSTR 2



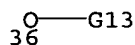
- G1 = **bond** / G43 / alkylene (opt. substd. by 1 or more G10) / (Example: CHMe)  
 G2 = H  
 G3 = H / Me / Et / OH / NH2 / SMe  
 G4 = H / alkyl (opt. substd. by (1) G11) / Ph (opt. substd. by 1 or more G35) / carbocycle <containing 10 C, aromatic, bonds all normalized, 2 C fusion atoms, bicyclic, (2) 6-membered rings only> (opt. substd.) / heterocycle <containing 1-3 heteroatoms, 0-2 N, 0-1 O, 0-1 S (no other heteroatoms), mono- or bicyclic, (0-1) 5-membered, (0-2) 6-membered rings only> (opt. substd.) / 53 / 152 / (Examples: Bu-t / Me / Pr-i / CH2Ph / 327)



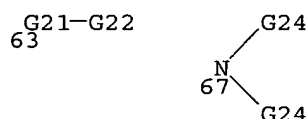
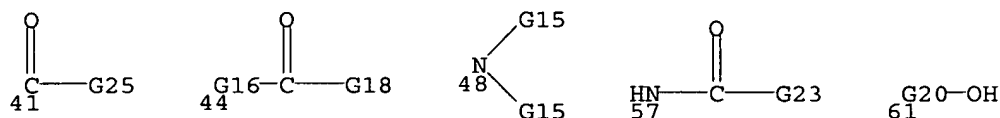
- G5 = O / S  
 G6 = H  
 G7 = H  
 G8 = H  
 G10 = Ph / carbocycle <containing 10 C, aromatic, bonds all normalized, 2 C fusion atoms, bicyclic, (2) 6-membered rings only>  
 G11 = OH / alkoxy <containing 1-3 C> / CN / 33 / NO2 / F / Cl / Br / I / 38 / Ph (opt. substd.) / carbocycle <containing 10 C, aromatic, bonds all normalized, 2 C fusion atoms, bicyclic, (2) 6-membered rings only> (opt. substd.) / heterocycle <containing 1-3 heteroatoms, 0-2 N, 0-1 O, 0-1 S (no other heteroatoms), mono- or bicyclic, (0-1) 5-membered, (0-2) 6-membered rings only> (opt. substd.) / 51 / 155



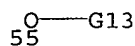
- G12 = OH / 36



- G13 = alkyl <containing 1-8 C> (opt. substd.) /  
carbocycle <containing 6-10 C, aromatic,  
bonds all normalized, mono- or bicyclic,  
(1-2) 6-membered rings only> (opt. substd.)
- G14 = carbocycle <containing 6-10 C, aromatic,  
bonds all normalized, mono- or bicyclic,  
(1-2) 6-membered rings only> (opt. substd.) / OH /  
alkoxy <containing 1-3 C> / CN / 41 / 44 / NO2 / F / Cl /  
Br / I / 48 / alkyl <containing 1-8 C> (opt. substd.) / 57 /  
SH / 61 / 63 / 67

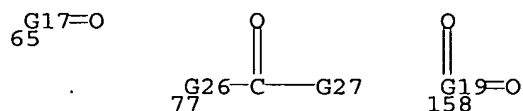


- G15 = H / alkyl <containing 1-4 C>
- G16 = alkylene <containing 1-8 C>
- G17 = **heterocycle** <containing 1-3 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), mono- or bicyclic,  
(0-1) 5-membered, (0-2) 6-membered,  
(0-1) 7-membered rings only> (opt. substd.)
- G18 = OH / 55 / H / alkyl <containing 1-8 C>  
(opt. substd.) / carbocycle <containing 6-10 C, aromatic,  
bonds all normalized, mono- or bicyclic,  
(1-2) 6-membered rings only> (opt. substd.)

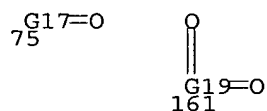


- G19 = heterocycle <containing 1-3 heteroatoms,  
zero or more N, zero or more O,  
1 or more S (no other heteroatoms), attached through 1 S,  
mono- or bicyclic, (0-1) 5-membered, (0-2) 6-membered,  
(0-1) 7-membered rings only> (opt. substd.)
- G20 = S / S(O)
- G21 = S / S(O) / SO2
- G22 = alkyl <containing 1-8 C> (opt. substd.) /  
carbocycle <containing 6-10 C, aromatic,  
bonds all normalized, mono- or bicyclic,  
(1-2) 6-membered rings only> (opt. substd.)
- G23 = H / alkyl <containing 1-8 C> (opt. substd.) /  
carbocycle <containing 6-10 C, aromatic,  
bonds all normalized, mono- or bicyclic,  
(1-2) 6-membered rings only> (opt. substd.) /

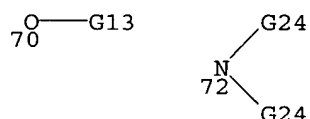
heterocycle <containing 1-3 heteroatoms, 0-2 N, 0-1 O,  
0-1 S (no other heteroatoms), mono- or bicyclic,  
(0-1) 5-membered, (0-2) 6-membered rings only>  
(opt. substd.) / 65 / 158 / 77



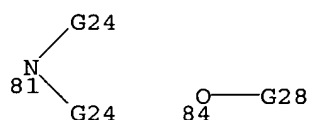
G24 = heterocycle <containing 1-3 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), mono- or bicyclic,  
(0-1) 5-membered, (0-2) 6-membered,  
(0-1) 7-membered rings only> (opt. substd.) / 75 / 161 / H /  
alkyl <containing 1-8 C> (opt. substd.) /  
carbocycle <containing 6-10 C, aromatic,  
bonds all normalized, mono- or bicyclic,  
(1-2) 6-membered rings only> (opt. substd.)



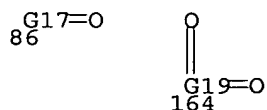
G25 = OH / 70 / H / alkyl <containing 1-8 C>  
(opt. substd.) / carbocycle <containing 6-10 C, aromatic,  
bonds all normalized, mono- or bicyclic,  
(1-2) 6-membered rings only> (opt. substd.) / 72



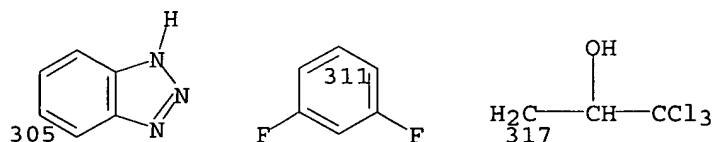
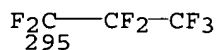
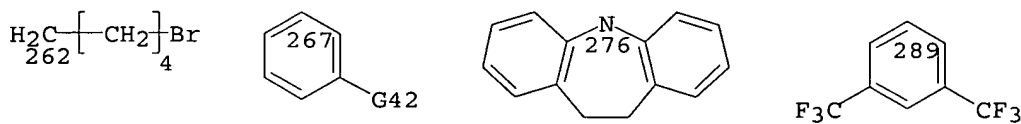
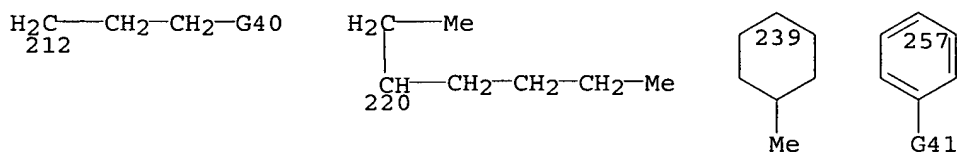
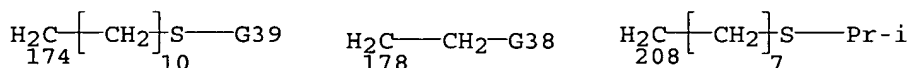
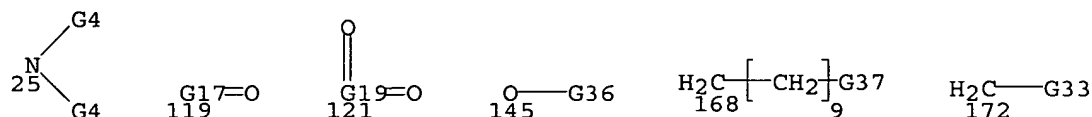
G26 = (1-4) CH2  
G27 = 81 / OH / 84



G28 = heterocycle <containing 1-3 heteroatoms, 0-2 N,  
0-1 O, 0-1 S (no other heteroatoms), mono- or bicyclic,  
(0-1) 5-membered, (0-2) 6-membered rings only>  
(opt. substd.) / 86 / 164 / alkyl <containing 1-8 C>  
(opt. substd.) / carbocycle <containing 6-10 C, aromatic,  
bonds all normalized, mono- or bicyclic,  
(1-2) 6-membered rings only> (opt. substd.)

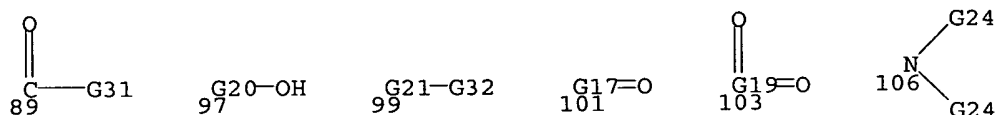


G29 = carbon chain <0 or more double bonds,  
no triple bonds> (opt. substd. by 1 or more G30) /  
Ph (opt. substd. by 1 or more G14) /  
heterocycle <containing 1-3 heteroatoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms),  
mono- or bicyclic, (0-1) 5-membered, (0-2) 6-membered,  
(0-1) 7-membered rings only> (opt. substd.) / 119 / 121 /  
cycloalkyl <containing 3-10 C> (opt. substd. by 1 or more  
G35) / 25 / OH / 145 / (Examples: 168 / 172 / 174 / Me /  
178 / 208 / 212 / Bu-t / 220 / 239 / 257 / 262 / 267 / 276 /  
289 / 295 / 305 / 311 / 317 / CH=CHPh)

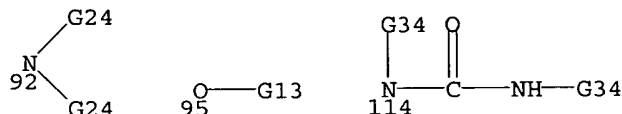


G30 = OH / F / Cl / Br / I / alkoxy <containing 1-8 C> /  
89 / SH / 97 / 99 / 106 / Ph (opt. substd. by 1 or more G14)  
/ carbocycle <containing 10 C, aromatic,  
bonds all normalized, 2 C fusion atoms, bicyclic,  
(2) 6-membered rings only> (opt. substd.) /  
heterocycle <containing 1-3 heteroatoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms),

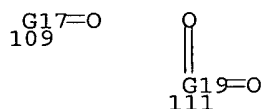
mono- or bicyclic, (0-1) 5-membered, (0-2) 6-membered,  
(0-1) 7-membered rings only> (opt. substd.) / 101 / 103 /  
cycloalkyl <containing 3-10 C> (opt. substd.)



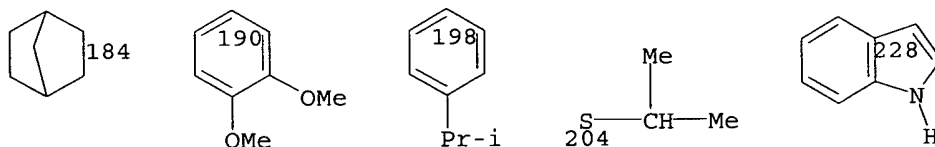
G31 = 92 / OH / 95 / 114



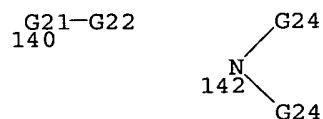
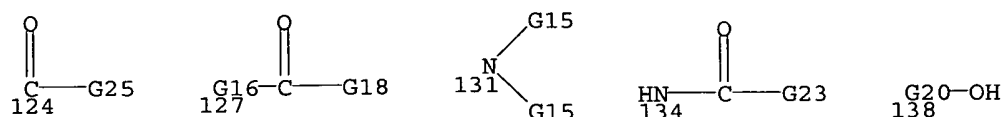
G32 = alkyl <containing 1-8 C> (opt. substd.) /  
carbocycle <containing 6-10 C, aromatic,  
bonds all normalized, mono- or bicyclic,  
(1-2) 6-membered rings only> (opt. substd.) /  
heterocycle <containing 1-3 heteroatoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms),  
mono- or bicyclic, (0-1) 5-membered, (0-2) 6-membered,  
(0-1) 7-membered rings only> (opt. substd.) / 109 / 111



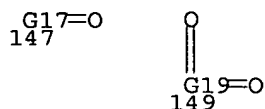
G33 = OEt / 1-adamantyl / 184 / 190 / 198 / 204 /  
2-furyl / cyclohexyl / 228 / OCOMe



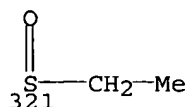
G34 = H / alkyl <containing 1-8 C> / CH2Ph / cyclohexyl  
G35 = OH / alkoxy <containing 1-3 C> / CN / 124 / 127 /  
NO2 / F / Cl / Br / I / 131 / alkyl <containing 1-8 C>  
(opt. substd.) / 134 / SH / 138 / 140 / 142



G36 = alkyl (opt. substd.) / Ph (opt. substd.) /  
 carbocycle <containing 10 C, aromatic, bonds all normalized,  
 2 C fusion atoms, bicyclic, (2) 6-membered rings only>  
 (opt. substd.) / heterocycle <containing 1-3 heteroatoms,  
 0-2 N, 0-1 O, 0-1 S (no other heteroatoms),  
 mono- or bicyclic, (0-1) 5-membered,  
 (0-2) 6-membered rings only> (opt. substd.) / 147 / 149



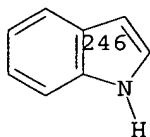
G37 = SEt / CO2Me / 321



G38 = CO2H / CO2CH2Ph

G39 = Pr-i / Bu-t

G40 = 2-thienyl / 246



G41 = Bu-i / NO2 / OEt / CPh

G42 = NHCOMe / CN

G43 = (1-10) CH2

G2 +G8 = bond

G6 +G7 = bond

Derivative:

Patent location:

Note:

or pharmaceutically acceptable salts or esters

disclosure

substitution is restricted

L71 ANSWER 114 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 126:89269 MARPAT

TITLE: Preparation of heterocyclic compounds as cholesterol  
 acyltransferase inhibitors

INVENTOR(S): Natsukari, Hideaki; Ishimaru, Takenori; Doi, Takayuki;  
 Sugyama, Yasuo; Morimoto, Shinji

PATENT ASSIGNEE(S): Takeda Chemical Industries Ltd, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 27 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 08295667 A2 19961112 JP 1995-129433 19950427

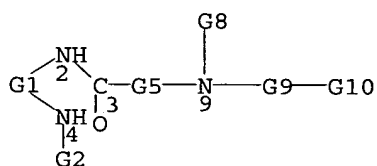
PRIORITY APPLN. INFO.:

JP 1995-129433 19950427

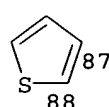
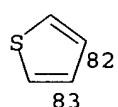
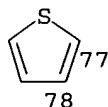
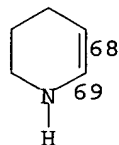
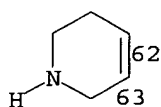
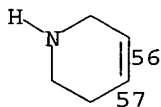
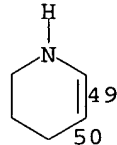
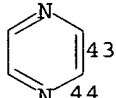
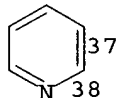
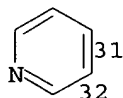
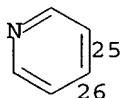
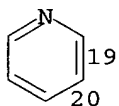
AB The title compds. [I; A, B = (un)substituted (hetero)cycle; X = N, CR1; R, R1 = H, (un)substituted hydrocarbyl; Y = (oxo)alkylene; Z = bond, alkylene; W = (un)substituted (hetero)cycle; when A, B = benzene ring, X = CR1, Y = CO, W = substituted cycle or (un)substituted heterocycle] are prepared I having a potent antagonism on tachykinin receptor (substance P receptor special) are useful as cholesterol acyltransferase (ACAT) inhibitors. Thus, N-[3,5-bis(trifluoromethyl)benzyl]-N'-(4-chloro-2-phenylaminophenyl)-N-methyloxamide (preparation given) was treated with HCl and reacted with AcONa in the presence of Pd/C under H atmospheric to give the title

compound (II). II showed IC50 of 0.36 nM against tachykinin receptors.

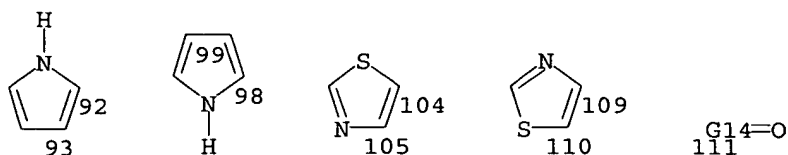
## MSTR 4



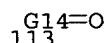
G1 = carbocycle <1 or more double bonds>  
(opt. substd. by 1 or more G13) /  
**heterocycle <containing zero or more N, zero or more S,  
zero or more O, 1 or more double bonds>**  
(opt. substd. by 1 or more G13) /  
(Specifically claimed: arylene / phenylene (opt. substd.) /  
19-2 20-4 / 25-2 26-4 / 31-2 32-4 / 37-2 38-4 ) /  
(Examples: 43-2 44-4 / 49-2 50-4 / 56-2 57-4 /  
62-2 63-4 / 68-2 69-4 / 77-2 78-4 / 82-2 83-4 /  
87-2 88-4 / 92-2 93-4 / 99-2 98-4 / 104-2 105-4 /  
109-2 110-4 / 111)



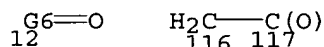




G2 = carbocycle (opt. substd. by 1 or more G13) /  
heterocycle <containing zero or more N, zero or more S,  
zero or more O> (opt. substd. by 1 or more G13) /  
(Specifically claimed: aryl / Ph (opt. substd.) /  
pyridyl (opt. substd.)) / (Example: 113)



G5 = alkylene / 12 / (Specifically claimed: 116-3 117-9 )



G6 = carbon chain <saturated>

G8 = H / hydrocarbyl (opt. substd.) /  
(Examples: alkyl (opt. substd. by cycloalkyl) / alkenyl /  
alkynyl / cycloalkyl / aryl / alkyl (substd. by 1 or more  
aryl))

G9 = bond / alkylene

G10 = carbocycle (opt. substd. by 1 or more G15) /  
heterocycle <containing zero or more N, zero or more S,  
zero or more O> (opt. substd. by 1 or more G15) /  
(Specifically claimed: Ph (opt. substd. by (1-3) G11))

G11 = F / Cl / Br / I / alkyl <containing 1-6 C>  
(opt. substd. by 1 or more G12) /  
alkoxy <containing 1-6 C> (opt. substd. by 1 or more G12)

G12 = F / Cl / Br / I

G13 = R / (Examples: F / Cl / Br / I /  
alkyl <containing 1-6 C> (opt. substd. by 1 or more G12) /  
alkoxy <containing 1-6 C> (opt. substd. by 1 or more G12) /  
alkylthio (opt. substd. by 1 or more G12) / acyloxy / OH /  
NH<sub>2</sub> / alkylamino <containing 1-6 C> /  
dialkylamino <each alkyl containing 1-6 C> / CO<sub>2</sub>H /  
alkoxycarbonyl <containing 1-6 C> / aryl <containing 6-10 C>)

G14 = carbocycle (opt. substd. by 1 or more G13) /  
heterocycle <containing zero or more N, zero or more S,  
zero or more O> (opt. substd. by 1 or more G13)

G15 = R / (Examples: F / Cl / Br / I /  
alkyl <containing 1-6 C> (opt. substd. by 1 or more G16) /  
NO<sub>2</sub> / OH / alkoxy <containing 1-6 C>  
(opt. substd. by 1 or more G12) /  
alkylamino <containing 1-6 C> /  
dialkylamino <each alkyl containing 1-6 C> /  
alkoxycarbonyl <containing 1-6 C> / acyloxy / CO<sub>2</sub>H / CONH<sub>2</sub>)

G16 = F / Cl / Br / I / NH<sub>2</sub> /  
alkylamino <containing 1-6 C> /  
dialkylamino <each alkyl containing 1-6 C>

Derivative: or salts

Patent location: claim 14

L71 ANSWER 115 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 125:248489 MARPAT  
 TITLE: Preparation of dipeptide derivatives as cell adhesion inhibitors  
 INVENTOR(S): Adams, Steven P.; Lin, Ko-Chung; Lee, Wen-Cherng; Castro, Alfredo C.; Zimmerman, Craig N.; Hammond, Charles E.; Liao, Yu-Sheng; Cuervo, Julio Hernan; Singh, Juswinder  
 PATENT ASSIGNEE(S): Biogen, Inc., USA  
 SOURCE: PCT Int. Appl., 169 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9622966	A1	19960801	WO 1996-US1349	19960118
W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE				
US 6306840	B1	20011023	US 1995-376372	19950123
CA 2211181	AA	19960801	CA 1996-2211181	19960118
AU 9649115	A1	19960814	AU 1996-49115	19960118
AU 718926	B2	20000504		
EP 805796	A1	19971112	EP 1996-905316	19960118
EP 805796	B1	20021211		
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CN 1177343	A	19980325	CN 1996-192270	19960118
JP 10513160	T2	19981215	JP 1996-523071	19960118
EP 1142867	A2	20011010	EP 2001-107877	19960118
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AT 229498	E	20021215	AT 1996-905316	19960118
ES 2183937	T3	20030401	ES 1996-905316	19960118
CZ 291556	B6	20030416	CZ 1997-2340	19960118
PT 805796	T	20030430	PT 1996-905316	19960118
EE 4111	B1	20030815	EE 1997-172	19960118
SK 283724	B6	20031202	SK 1997-987	19960118
PL 187313	B1	20040630	PL 1996-321848	19960118
RO 119885	B1	20050530	RO 1997-1369	19960118
TW 500714	B	20020901	TW 1996-85100690	19960122
IL 116846	A1	20021110	IL 1996-116846	19960122
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NO 320914	B1	20060213		
FI 9703087	A	19970922	FI 1997-3087	19970722
BG 63383	B1	20011231	BG 1997-101841	19970821
US 6376538	B1	20020423	US 1997-875321	19970919
HK 1005241	A1	20030822	HK 1998-104006	19980508
AU 766538	B2	20031016	AU 2000-62432	20001002
US 2003083267	A1	20030501	US 2001-935461	20010822

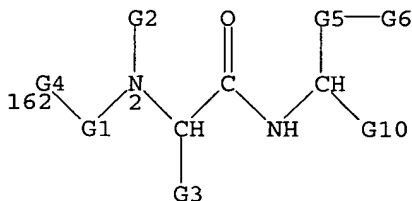
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PRIORITY APPLN. INFO.:

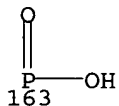
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			US 2001-935461	20010822
			US 2001-2341	20011023

AB Novel dipeptide analogs I [X = CO<sub>2</sub>H, PO<sub>3</sub>H<sup>-</sup>, SO<sub>2</sub>R<sub>5</sub>, SO<sub>3</sub>H, OPO<sub>3</sub>H<sup>-</sup>, CO<sub>2</sub>R<sub>4</sub>, CONR<sub>4</sub>2; Y = CO, SO<sub>2</sub>, PO<sub>2</sub>; n = 0-2; R<sub>1</sub> = optionally substituted alkyl, alkenyl, alkynyl, aryl-fused cycloalkyl, cycloalkenyl, aryl, aralkyl, aralkenyl, aralkynyl, alkoxy, alkenyloxy, aralkoxy, alkylamino, alkenylamino, alkynylamino, aryloxy, arylamino, N-alkylurea-substituted alkyl, heterocyclyl; R<sub>2</sub> = H, aryl, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl-substituted alkyl; R<sub>2</sub>NCR<sub>3</sub> = heterocyclic ring; R<sub>3</sub> = natural, unnatural, modified, or substituted amino acid side chain; R<sub>4</sub> = optionally substituted aryl, alkyl, cycloalkyl, alkenyl, cycloalkenyl, alkynyl, aryl-substituted alkyl, H, heterocyclyl, heterocyclylcarbonyl, aminocarbonyl, amido, alkylaminocarbonyl, arylaminocarbonyl, acylaminocarbonyl, acyl; R<sub>5</sub> = alkyl, alkenyl, cycloalkyl, cycloalkenyl, aryl, aralkyl, aralkenyl, aralkynyl] are prepared as compds. useful for inhibition and prevention of cell adhesion and cell adhesion-mediated pathologies. This invention also relates to pharmaceutical formulations comprising these compds. and methods of using them for inhibition and prevention of cell adhesion and cell adhesion-mediated pathologies. The compds. and pharmaceutical compns. of this invention can be used as therapeutic or prophylactic agents. They are particularly well-suited for treatment of many inflammatory and autoimmune diseases. Thus, β-amino acid-containing dipeptide II, prepared by standard methods, displayed an IC<sub>50</sub> of <50 nM in a cell adhesion inhibition assay.

MSTR 1



G1 = C(O) / SO<sub>2</sub> / 163 / (Specifically claimed: CH<sub>2</sub>)



G2 = H / carbocycle <containing 6-14 C, aromatic, 1-3 rings, (up to 1) 5-membered, (up to 3) 6-membered, (up to 1) 7-membered rings only> (opt. substd.) / heterocycle <containing 1-4 heteroatoms, 0-4 N, 0-1 O, 0-3 S (no other heteroatoms), aromatic, 1-3 rings,

(up to 1) 5-membered, (up to 3) 6-membered rings only>  
 (opt. substd.) / alkyl <containing 1-10 C> /  
 alkenyl <containing 2-10 C> / alkynyl <containing 2-10 C> /  
 cycloalkyl <containing 3-8 C> /  
 cycloalkenyl <containing 4-8 C> / 85

G13-G12  
 85

G3 = alkyl <containing 1-10 C> (opt. substd. by G12) /  
 alkenyl <containing 2-10 C> / alkynyl <containing 3-10 C> /  
 cycloalkyl <containing 3-8 C> /  
 cycloalkenyl <containing 4-8 C> / 127 / 129 /  
 CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>NHC(NH)NH<sub>2</sub> / CH<sub>2</sub>CONH<sub>2</sub> / CH<sub>2</sub>CH<sub>2</sub>CONH<sub>2</sub> / 140 / 142 /  
 H / Bu-i / Bu-s / Bu-t / Bu-n / CH<sub>2</sub>C<sub>6</sub>H<sub>4</sub>OH-p / Me /  
 CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub> / Pr-i / CH(OH)Me / CH<sub>2</sub>OH / CH<sub>2</sub>CO<sub>2</sub>H /  
 (Specifically claimed: 226)

G24-G12  
 127

G13-G33  
 129

H<sub>2</sub>C—G38  
 140

H<sub>2</sub>C—CH<sub>2</sub>—G39—Me  
 142

H<sub>2</sub>C—[CH<sub>2</sub>]<sub>3</sub>—NH—G44  
 226

G4 = alkyl <containing 1-10 C>  
 (opt. substd. by cycloalkyl <containing 3-8 C>) /  
 alkenyl <containing 2-10 C> / alkynyl <containing 2-10 C> /  
 cycloalkyl <containing 3-8 C> (opt. substd. by cycloalkenyl  
 <containing 4-8 C>) / carbocycle <containing 6-22 C,  
 aromatic, 1-4 rings, (up to 1) 5-membered,  
 (up to 3) 6-membered, (up to 1) 7-membered rings>  
 (opt. substd.) / heterocycle <containing 1-4 heteroatoms,  
 0-4 N, 0-1 O, 0-3 S (no other heteroatoms), aromatic,  
 1-4 rings, (up to 1) 5-membered, (up to 3) 6-membered rings>  
 (opt. substd.) / cycloalkenyl <containing 4-8 C> /  
 alkyl <containing 1-10 C> (substd. by 1 or more G29) / 87 /  
 89 / alkoxy <containing 1-10 C> (opt. substd. by G12) /  
 alkenyloxy <containing 2-10 C> /  
 alkynyloxy <containing 2-10 C> / 93 / 94 /  
 dialkylamino <each alkyl containing 1-10 C>  
 (opt. substd. by G12) / dialkenylamino <each alkenyl  
 containing 2-10 C> (opt. substd. by G12) /  
 dialkynylamino <each alkynyl containing 2-10 C>  
 (opt. substd. by G12) / 98 / 100 / 103 /  
 heterocycle <containing 1-4 heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 1-3 rings, 0 or more 6-membered rings> (opt. substd.) / 110 /  
 112 / 125 / (Specifically claimed: 166)

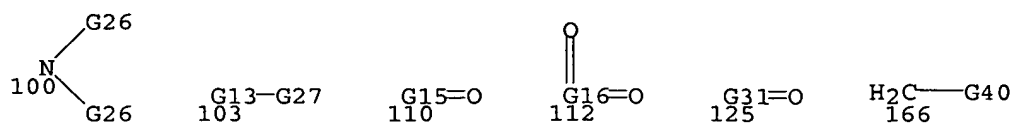
G24-G12  
 87

G12-G12  
 89

O—G24-G12  
 93

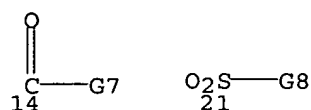
HN—G25  
 94

O—G12  
 98

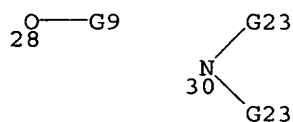


G5 = (0-2) CH2

G6 = 14 / PO3H2 / OPO3H2 / 21



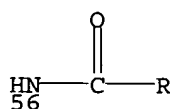
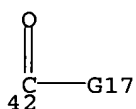
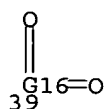
G7 = OH / 28 / 30



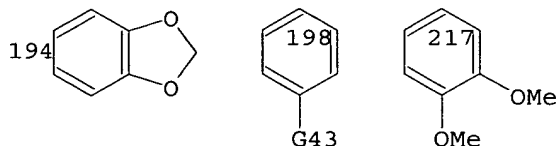
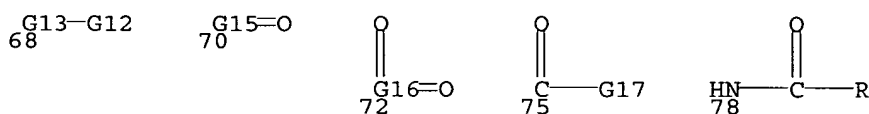
G8 = alkyl <containing 1-10 C> /  
 alkenyl <containing 2-10 C> / alkynyl <containing 2-10 C> /  
 cycloalkyl <containing 3-8 C> /  
 cycloalkenyl <containing 4-8 C> /  
 carbocycle <containing 6-14 C, aromatic, 1-3 rings,  
 (up to 1) 5-membered, (up to 3) 6-membered,  
 (up to 1) 7-membered rings only> (opt. substd.) /  
 heterocycle <containing 1-4 heteroatoms, 0-4 N, 0-1 O,  
 0-3 S (no other heteroatoms), aromatic, 1-3 rings,  
 (up to 1) 5-membered, (up to 3) 6-membered rings only>  
 (opt. substd.) / 33 / OH

G11-G12  
33

G9 = carbocycle <containing 6-14 C, aromatic, 1-3 rings,  
 (up to 1) 5-membered, (up to 3) 6-membered,  
 (up to 1) 7-membered rings only> (opt. substd.) /  
 heterocycle <containing 1-4 heteroatoms, 0-4 N, 0-1 O,  
 0-3 S (no other heteroatoms), aromatic, 1-3 rings,  
 (up to 1) 5-membered, (up to 3) 6-membered rings only>  
 (opt. substd.) / alkyl <containing 1-10 C>  
 (opt. substd. by G14) / cycloalkyl <containing 3-8 C> /  
 alkenyl <containing 2-10 C> / cycloalkenyl <containing 4-8 C>  
 / alkynyl <containing 2-10 C> / 35 /  
 heterocycle <containing 1-4 heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 1-3 rings, 0 or more 6-membered rings> (opt. substd.) / 37 /  
 39 / 42 / 56

G13-G12  
35G15=O  
37

G10 = H / carbocycle <containing 6-14 C, aromatic, 1-3 rings, (up to 1) 5-membered, (up to 3) 6-membered, (up to 1) 7-membered rings only> (opt. substd.) / heterocycle <containing 1-4 heteroatoms, 0-4 N, 0-1 O, 0-3 S (no other heteroatoms), aromatic, 1-3 rings, (up to 1) 5-membered, (up to 3) 6-membered rings only> (opt. substd.) / alkyl <containing 1-10 C> (opt. substd. by G14) / cycloalkyl <containing 3-8 C> / alkenyl <containing 2-10 C> / cycloalkenyl <containing 4-8 C> / alkynyl <containing 2-10 C> / 68 / heterocycle <containing 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), 1-3 rings, 0 or more 6-membered rings> (opt. substd.) / 70 / 72 / 75 / 78 / (Specifically claimed: 194 / 198 / 217 / CH<sub>2</sub>CH<sub>2</sub>Ph)

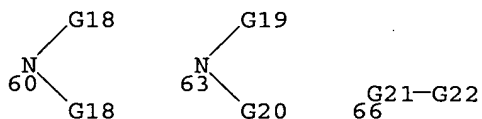


G11 = alkylene <containing 1-10 C> / alkenylene <containing 2-10 C> / alkynylene <containing 2-10 C>

G12 = carbocycle <containing 6-14 C, aromatic, 1-3 rings, (up to 1) 5-membered, (up to 3) 6-membered, (up to 1) 7-membered rings only> (opt. substd.) / heterocycle <containing 1-4 heteroatoms, 0-4 N, 0-1 O, 0-3 S (no other heteroatoms), aromatic, 1-3 rings, (up to 1) 5-membered, (up to 3) 6-membered rings only> (opt. substd.)

G13 = alkylene <containing 1-10 C>

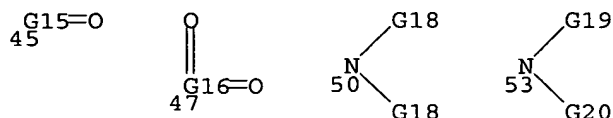
G14 = 60 / CO<sub>2</sub>H / OH / SH / 63 / 66 / heterocycle <containing 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), 1-3 rings, 0 or more 6-membered rings> (opt. substd.) / alkynylthio <containing 2-10 C>



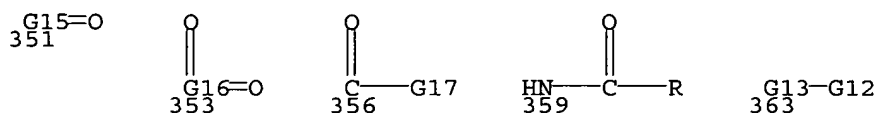
G15 = heterocycle <containing 1-4 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), 1-3 rings, 0 or more 6-membered rings> (opt. substd.)

G16 = heterocycle <containing 1-4 heteroatoms, zero or more N, zero or more O,

1 or more S (no other heteroatoms), attached through 1 S,  
1-3 rings, 0 or more 6-membered rings> (opt. substd.)  
G17 = heterocycle <containing 1-4 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), 1-3 rings,  
0 or more 6-membered rings> (opt. substd.) / 45 / 47 / 50 /  
53 / alkyl <containing 1-10 C> /  
alkenyl <containing 2-10 C> / alkynyl <containing 2-10 C> /  
carbocycle / heterocycle

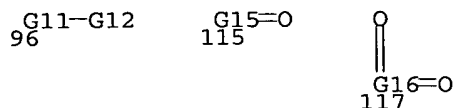


G18 = H / alkyl <containing 1-10 C> /  
carbocycle <containing 6-14 C, aromatic, 1-3 rings,  
(up to 1) 5-membered, (up to 3) 6-membered,  
(up to 1) 7-membered rings only> (opt. substd.) /  
heterocycle <containing 1-4 heteroatoms, 0-4 N, 0-1 O,  
0-3 S (no other heteroatoms), aromatic, 1-3 rings,  
(up to 1) 5-membered, (up to 3) 6-membered rings only>  
(opt. substd.)  
G19 = acyl  
G20 = H / acyl  
G21 = O / S  
G22 = alkyl <containing 1-10 C> /  
alkenyl <containing 2-10 C> / carbocycle <containing 6-14 C,  
aromatic, 1-3 rings, (up to 1) 5-membered,  
(up to 3) 6-membered, (up to 1) 7-membered rings only>  
(opt. substd.) / heterocycle <containing 1-4 heteroatoms,  
0-4 N, 0-1 O, 0-3 S (no other heteroatoms), aromatic,  
1-3 rings, (up to 1) 5-membered,  
(up to 3) 6-membered rings only> (opt. substd.)  
G23 = H / carbocycle <containing 6-14 C, aromatic,  
1-3 rings, (up to 1) 5-membered, (up to 3) 6-membered,  
(up to 1) 7-membered rings only> (opt. substd.) /  
heterocycle <containing 1-4 heteroatoms, 0-4 N, 0-1 O,  
0-3 S (no other heteroatoms), aromatic, 1-3 rings,  
(up to 1) 5-membered, (up to 3) 6-membered rings only>  
(opt. substd.) / alkyl <containing 1-10 C>  
(opt. substd. by G14) / cycloalkyl <containing 3-8 C> /  
alkenyl <containing 2-10 C> / cycloalkenyl <containing 4-8 C>  
/ alkynyl <containing 2-10 C> / 363 /  
heterocycle <containing 1-4 heteroatoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms),  
1-3 rings, 0 or more 6-membered rings> (opt. substd.) / 351  
/  
353 / 356 / 359

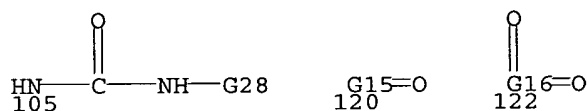


G24 = alkenylene <containing 2-10 C> /  
alkynylene <containing 2-10 C>  
G25 = alkyl <containing 1-10 C> /

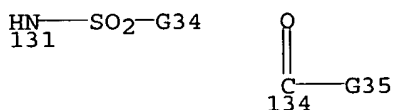
alkenyl <containing 2-10 C> / alkynyl <containing 2-10 C> /  
 96 / heterocycle <containing 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), 1-3 rings,  
 0 or more 6-membered rings> (opt. substd.) / 115 / 117



- G26 = H / carbocycle <containing 6-14 C, aromatic,  
 1-3 rings, (up to 1) 5-membered, (up to 3) 6-membered,  
 (up to 1) 7-membered rings only> (opt. substd.) /  
 heterocycle <containing 1-4 heteroatoms, 0-4 N, 0-1 O,  
 0-3 S (no other heteroatoms), aromatic, 1-3 rings,  
 (up to 1) 5-membered, (up to 3) 6-membered rings only>  
 (opt. substd.)
- G27 = 105 / alkylcarbonylamino <containing 1-10 C> /  
 CONH2 / heterocycle <containing 1-4 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), 1-3 rings,  
 0 or more 6-membered rings> (opt. substd.) / 120 / 122

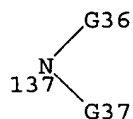


- G28 = alkyl <containing 1-10 C> /  
 carbocycle <containing 6-14 C, aromatic, 1-3 rings,  
 (up to 1) 5-membered, (up to 3) 6-membered,  
 (up to 1) 7-membered rings only> (opt. substd.) /  
 heterocycle <containing 1-4 heteroatoms, 0-4 N, 0-1 O,  
 0-3 S (no other heteroatoms), aromatic, 1-3 rings,  
 (up to 1) 5-membered, (up to 3) 6-membered rings only>  
 (opt. substd.)
- G29 = carbocycle <containing 6-14 C, aromatic, 1-3 rings,  
 (up to 1) 5-membered, (up to 3) 6-membered,  
 (up to 1) 7-membered rings only> (opt. substd. by G30) /  
 heterocycle <containing 1-4 heteroatoms, 0-4 N, 0-1 O,  
 0-3 S (no other heteroatoms), aromatic, 1-3 rings,  
 (up to 1) 5-membered, (up to 3) 6-membered rings only>  
 (opt. substd. by G30)
- G30 = R / alkyl <containing 1-10 C> (substd. by CO2H)
- G31 = carbocycle <aromatic> (opt. substd.)
- G33 = OH / alkoxy <containing 1-10 C>  
 (opt. substd. by G12) / NH2 / alkoxycarbonylamino  
 <containing 1-10 C> (substd. by G12) / SH /  
 alkylsulfonyl <containing 1-10 C> /  
 alkylthio <containing 1-10 C> (opt. substd. by OH) /  
 acylamino / 131 / morpholino / thiomorpholino / 134

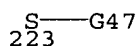
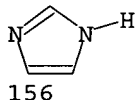
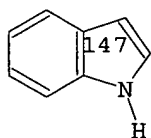




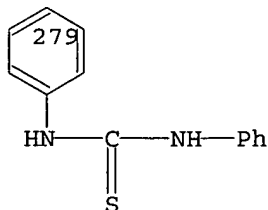
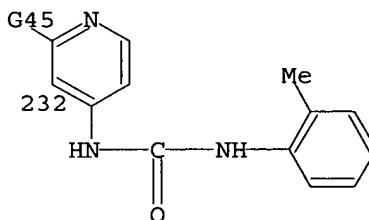
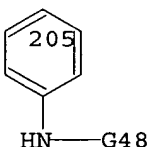
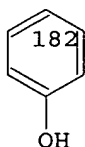
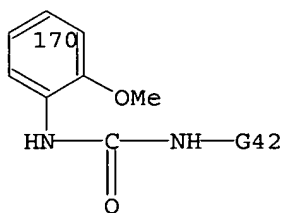
- G34 = alkyl <containing 1-10 C> /  
 carbocycle <containing 6-14 C, aromatic,  
 6 or more normalized bonds, 1-3 rings, (up to 1) 5-membered,  
 (1-3) 6-membered, (up to 1) 7-membered rings only>  
 (opt. substd.) / heterocycle <containing 1-4 heteroatoms,  
 0-4 N, 0-1 O, 0-3 S (no other heteroatoms), aromatic,  
 1-3 rings, (up to 1) 5-membered,  
 (up to 3) 6-membered rings only> (opt. substd.)
- G35 = morpholino / thiomorpholino / 137 /  
 alkynylamino <containing 2-10 C> /  
 dialkynylamino <each alkynyl containing 2-10 C> / OH



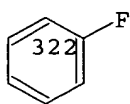
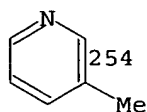
- G36 = H / alkyl <containing 1-10 C> /  
 alkenyl <containing 2-10 C>
- G37 = alkyl <containing 1-10 C> /  
 alkenyl <containing 2-10 C>
- G38 = SMe / Ph / 147 / 156 / CN /  
 (Specifically claimed: 223)



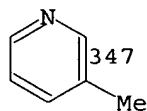
- G39 = S / S(O) / SO<sub>2</sub>
- G40 = 182 / 170 / 205 / 232 / 279



- G41 = Ph / o-C<sub>6</sub>H<sub>4</sub>Me / 2-pyridyl / 254 / CH<sub>2</sub>CH=CH<sub>2</sub> / 322 /  
 329



G42 = Ph / o-C<sub>6</sub>H<sub>4</sub>Me / 2-pyridyl / 347

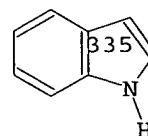
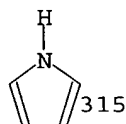
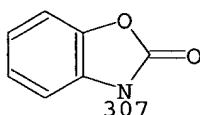
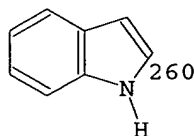
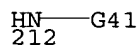


G43 = OMe / F / CO<sub>2</sub>H / CO<sub>2</sub>Me

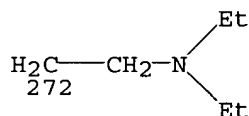
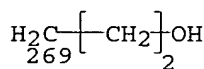
G44 = COMe / SO<sub>2</sub>Me / CO<sub>2</sub>Me

G45 = H / OMe

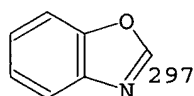
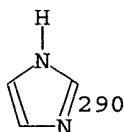
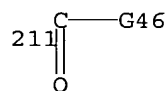
G46 = 212 / 260 / 307 / 315 / 335



G47 = 269 / 272



G48 = 211 / 290 / 297



G2 + G3 = R <"moiety necessary to form a ring"> / CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>

Derivative: or pharmaceutically acceptable derivatives

Patent location: claim 1

Note: substitution is restricted

L71 ANSWER 116 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 125:168451 MARPAT

TITLE: Preparation of 17-ethers and thioethers of 4-aza-steroids as 5 $\alpha$ -reductase inhibitors

INVENTOR(S): Witzel, Bruce E.; Tolman, Richard L.; Rasmusson, Gary H.; Bakshi, Raman K.; Yang, Shu Shu

PATENT ASSIGNEE(S): Merck and Co., Inc., USA

SOURCE: U.S., 22 pp., Cont.-in-part of U.S. Ser. No. 886, 031, abandoned.

CODEN: USXXAM

DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

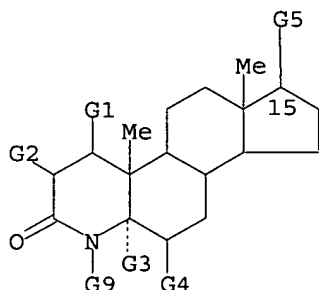
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5536727	A	19960716	US 1994-338572	19941117
WO 9323040	A1	19931125	WO 1993-US4746	19930519

W: AU, BB, BG, BR, CA, CZ, FI, HU, JP, KR, KZ, LK, MG, MN, MW, NO, NZ, PL, RO, RU, SD, SK, UA, US  
 RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

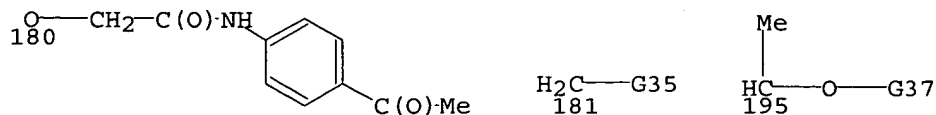
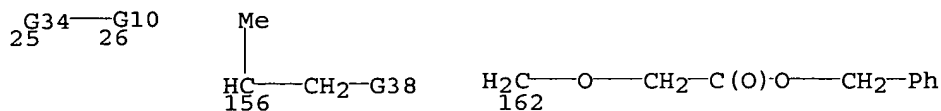
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 WO 1993-US4746 19930519

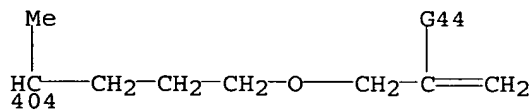
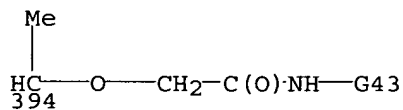
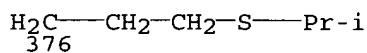
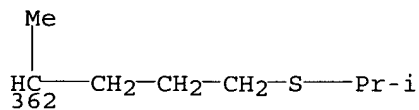
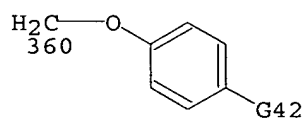
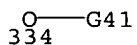
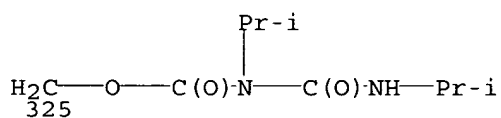
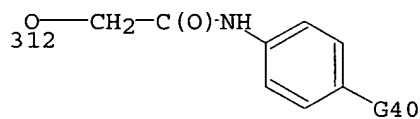
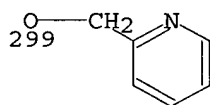
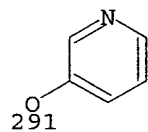
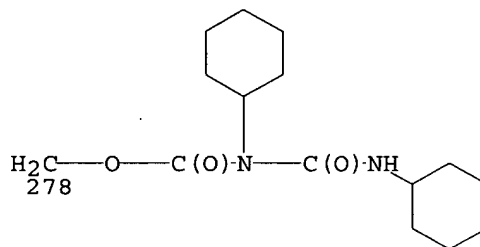
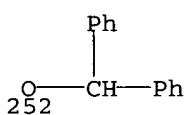
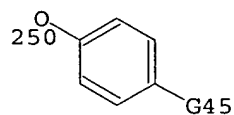
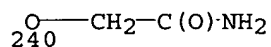
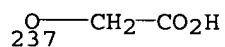
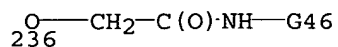
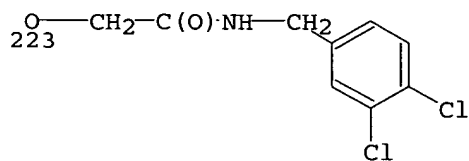
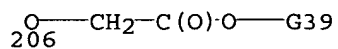
AB 4-Azasteroids I [R = group containing -O- or -S(O)n; n = 0-2; R1 = H, Me, Et, OH, NH2, SMe; R2 = H or absent] containing an ether or thioether moiety, are prepared as inhibitors of the 5 $\alpha$ -reductase enzyme and isoenzymes thereof (no data). Thus, benzyl diazoacetate was added to 17 $\beta$ -hydroxymethyl-4-methyl-5 $\alpha$ -4-azaandrostan-3-one with boron trifluoride etherate to give I (R = CH2OCH2Cbz, R1 = Me, R2 = H).

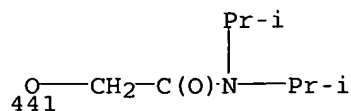
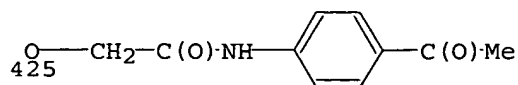
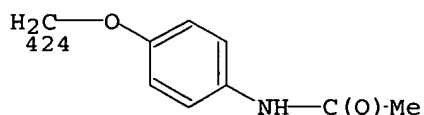
## MSTR 1



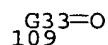
G1 = H  
 G2 = H  
 G3 = H  
 G4 = H  
 G5 = 25 / (Specifically claimed: 156 / 162 / 180 / 181 / 195 / 206 / 223 / 236 / 237 / 240 / 250 / 252 / 278 / 291 / 299 / OCH2Ph / 312 / 325 / 334 / 360 / 362 / 376 / 394 / 404 / 424 / 425 / 441)



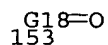
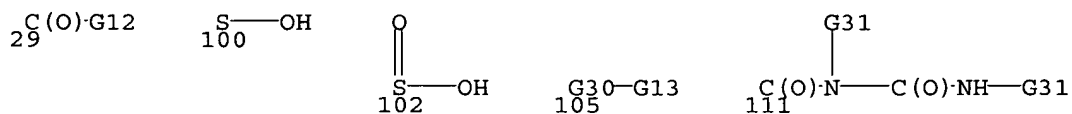




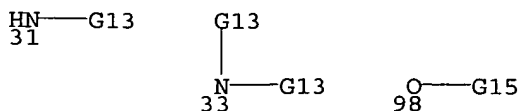
- G6 = alkylene (opt. substd. by 1 or more G7)  
 G7 = Ph / naphthyl  
 G8 = O / S / S(O) / SO<sub>2</sub>  
 G9 = H / Me / Et / OH / NH<sub>2</sub> / SMe  
 G10 = alkyl <containing 1-20 C>  
 (opt. substd. by (1-2) G11) / Ph (opt. substd. by (1-2) G19)  
 / naphthyl (opt. substd.) / heterocycle <containing 1-2  
 heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), mono- or bicyclic,  
 (0-1) 5-membered, (0-2) 6-membered rings only>  
 (opt. substd. by (1) G32) / 109 /  
 cycloalkyl <containing 3-10 C> (opt. substd. by (1) G32)



- G11 = OH / F / Cl / Br / I / alkoxy <containing 1-8 C> /  
 alkenyl <containing 2-10 C> / 29 / SH / 100 / 102 / NH<sub>2</sub> /  
 105 / Ph (opt. substd.) / naphthyl (opt. substd.) /  
 heterocycle <containing 1-2 heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 mono- or bicyclic, (0-1) 5-membered,  
 (0-2) 6-membered rings only> (opt. substd.) / 153 /  
 cycloalkyl <containing 3-10 C> (opt. substd.) / 111



- G12 = NH<sub>2</sub> / 31 / 33 / OH / 98



- G13 = alkyl <containing 1-8 C> (opt. substd. by (1) G14) /

Ph (opt. substd.) / naphthyl (opt. substd.) /  
 heterocycle <containing 1-2 heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 mono- or bicyclic, (0-1) 5-membered,  
 (0-2) 6-membered rings only> (opt. substd.) / 48

G20=O  
 48

G14 = OH / alkoxy <containing 1-3 C> / CN / CO2H / 37 /  
 40 / NO2 / F / Cl / Br / I / NH2 /  
 alkylamino <containing 1-4 C> /  
 dialkylamino <each alkyl containing 1-4 C> /  
 Ph (opt. substd.) / naphthyl (opt. substd.) /  
 heterocycle <containing 1-2 heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 mono- or bicyclic, (0-1) 5-membered,  
 (0-2) 6-membered rings only> (opt. substd.) / 46

$\overset{37}{\text{C}}(\text{O})\text{O}-\text{G15}$        $\overset{40}{\text{G16}}-\text{C}(\text{O})-\text{G17}$        $\overset{46}{\text{G18}}=\text{O}$

G15 = alkyl <containing 1-8 C> (opt. substd.) /  
 carbocycle <containing 6-10 C, aromatic,  
 bonds all normalized, mono- or bicyclic,  
 (1-2) 6-membered rings only> (opt. substd.)

G16 = alkylene <containing 1-8 C>

G17 = OH / 44

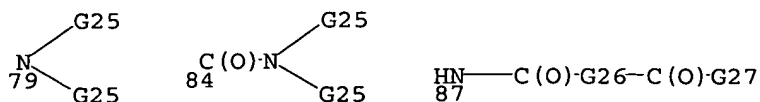
$\overset{44}{\text{O}}-\text{G15}$

G18 = heterocycle <containing 1 heteroatom,  
 1 N (no other heteroatoms), non-aromatic, saturated,  
 5- to 6-membered monocyclic ring> (opt. substd.)

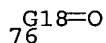
G19 = Ph (opt. substd.) / naphthyl (opt. substd.) / OH /  
 alkoxy <containing 1-3 C> / CN / CO2H / 50 / 53 / NO2 / F /  
 Cl / Br / I / NH2 / alkylamino <containing 1-4 C> /  
 dialkylamino <each alkyl containing 1-4 C> /  
 alkyl <containing 1-8 C> (opt. substd.) / 58 / 62 / 65 / SH /  
 66 / 68 / 71 / 73 / 79 / 84 / 87

$\overset{50}{\text{C}}(\text{O})\text{O}-\text{G15}$        $\overset{53}{\text{G16}}-\text{C}(\text{O})-\text{G17}$        $\overset{58}{\text{C}}(\text{O})-\text{G21}$        $\overset{62}{\text{G16}}-\text{C}(\text{O})-\text{G21}$

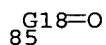
$\overset{65}{\text{HN}}-\text{C}(\text{O})-\text{G21}$        $\overset{66}{\text{S}}-\text{OH}$        $\overset{68}{\text{S}}=\text{O}$        $\overset{71}{\text{G22}}-\text{G23}$        $\overset{73}{\text{HN}}-\text{C}(\text{O})-\text{G24}$



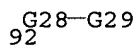
- G20 = heterocycle <containing 1 heteroatom,  
1 N (no other heteroatoms), non-aromatic, saturated,  
5- to 6-membered monocyclic ring> (opt. substd.)
- G21 = H / alkyl <containing 1-8 C> (opt. substd.) /  
carbocycle <containing 6-10 C, aromatic,  
bonds all normalized, mono- or bicyclic,  
(1-2) 6-membered rings only> (opt. substd.)
- G22 = S / S(O) / SO2
- G23 = alkyl <containing 1-8 C> (opt. substd.) /  
carbocycle <containing 6-10 C, aromatic,  
bonds all normalized, mono- or bicyclic,  
(1-2) 6-membered rings only> (opt. substd.)
- G24 = heterocycle <containing 1-2 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), mono- or bicyclic,  
(0-1) 5-membered, (0-2) 6-membered rings only>  
(opt. substd.) / 76



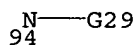
- G25 = heterocycle <containing 1-2 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), mono- or bicyclic,  
(0-1) 5-membered, (0-2) 6-membered rings only>  
(opt. substd.) / 85 / H / alkyl <containing 1-8 C>  
(opt. substd.) / carbocycle <containing 6-10 C, aromatic,  
bonds all normalized, mono- or bicyclic,  
(1-2) 6-membered rings only> (opt. substd.)



- G26 = (1-4) CH2
- G27 = NH2 / OH / 92

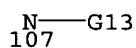
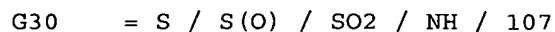
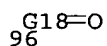


- G28 = O / NH / 94

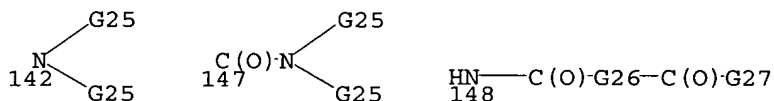
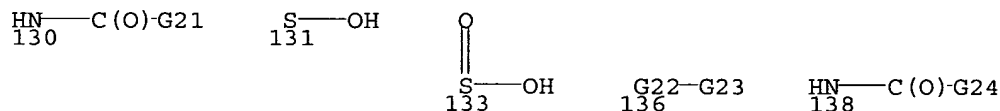
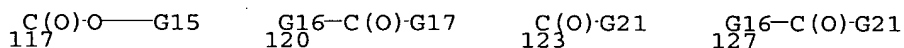


- G29 = heterocycle <containing 1-2 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), mono- or bicyclic,  
(0-1) 5-membered, (0-2) 6-membered rings only>  
(opt. substd.) / 96 / alkyl <containing 1-8 C>

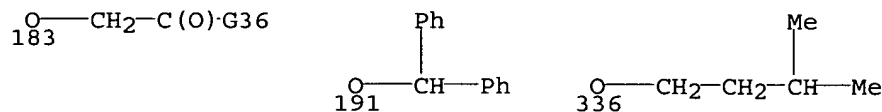
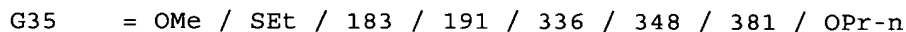
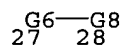
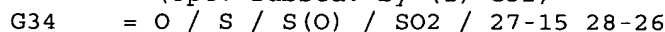
(opt. substd.) / carbocycle <containing 6-10 C, aromatic,  
bonds all normalized, mono- or bicyclic,  
(1-2) 6-membered rings only> (opt. substd.)



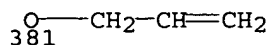
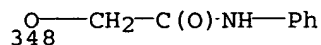
G31 = H / alkyl <containing 1-8 C> / CH<sub>2</sub>Ph / cyclohexyl  
G32 = OH / alkoxy <containing 1-3 C> / CN / CO<sub>2</sub>H / 117 /  
120 / NO<sub>2</sub> / F / Cl / Br / I / NH<sub>2</sub> /  
alkylamino <containing 1-4 C> /  
dialkylamino <each alkyl containing 1-4 C> /  
alkyl <containing 1-8 C> (opt. substd.) / 123 / 127 / 130 /  
SH / 131 / 133 / 136 / 138 / 142 / 147 / **148**



G33 = heterocycle <containing 1-2 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), mono- or bicyclic,  
(0-1) 5-membered, (0-2) 6-membered rings only>  
(opt. substd. by (1) G32)



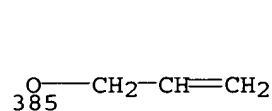
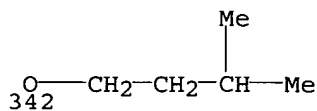
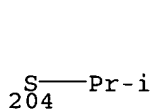
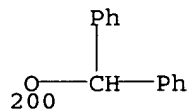




G36 = OH / OEt / OCH<sub>2</sub>Ph

G37 = CHPh<sub>2</sub> / Me

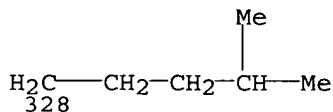
G38 = OMe / 200 / SEt / 204 / 342 / 385



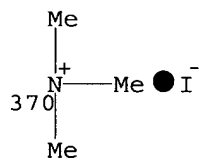
G39 = Et / CHPh<sub>2</sub>

G40 = CH(OH)Me / Bu-t

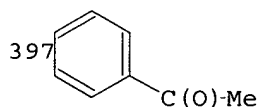
G41 = 328 / hexyl / Pr-n / undecyl / CH<sub>2</sub>CH=CH<sub>2</sub>



G42 = NO<sub>2</sub> / NMe<sub>2</sub> / 370

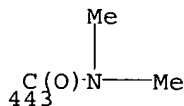


G43 = Ph / 397



G44 = Me / H

G45 = NHCOMe / OMe / 443



G46 = Ph / 1-adamantyl / Bu-t / CH<sub>2</sub>CH<sub>2</sub>OH

G1 + G2 = bond

G3 + G4 = bond

Derivative:

Patent location:

Note:

or pharmaceutically acceptable salts or esters

claim 1

substitution is restricted

ACCESSION NUMBER: 125:142789 MARPAT  
 TITLE: Preparation of benzodiazepines and benzazepines as  
 fibrinogen antagonists  
 INVENTOR(S): Callahan, James Francis; Samanen, James Martin  
 PATENT ASSIGNEE(S): Smithkline Beecham Corporation, USA  
 SOURCE: PCT Int. Appl., 47 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9617833	A1	19960613	WO 1995-US15932	19951207
W: JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 796252	A1	19970924	EP 1995-942590	19951207
R: BE, CH, DE, DK, FR, GB, IT, LI, NL				
JP 11505509	T2	19990521	JP 1995-517792	19951207
PRIORITY APPLN. INFO.: US 1994-353045 19941209				
WO 1995-US15932 19951207				

AB The title compds. [I; A1-A5 = O, S, N, CH<sub>2</sub>, CH with up to 2 heteroatoms in a 7-membered ring; D1-D4 = CH, N with up to 2 N atoms in a 6-membered ring; R = HO<sub>2</sub>CCH<sub>2</sub>CH(CO<sub>2</sub>H)NH, Ph(CH<sub>2</sub>)<sub>2</sub>CH(CH<sub>2</sub>CO<sub>2</sub>H)NH, HO<sub>2</sub>CCH<sub>2</sub>O, etc.; R1 = H, HO<sub>2</sub>CCH<sub>2</sub>O, etc.; R2 = H, MeCO, CN, etc.; R3 = H<sub>2</sub>NC(:NH)NH(CH<sub>2</sub>)<sub>3</sub>, 4-(H<sub>2</sub>NCH<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>, etc.], platelet aggregation inhibitors useful in the treatment of stroke or a transient ischemia attack or myocardial infarction, were prepared and formulated. Treatment of 7-nitro-1-tetralone with LiN(TMS)<sub>2</sub> and ClCOOMe followed by reaction of benzoate II with aminomethylbenzene III, cyclization of the intermediate IV, reduction of benzazepine V (R<sub>4</sub> = NO<sub>2</sub>), reaction of amino derivative V (R<sub>4</sub> = NH<sub>2</sub>) with dimethylacetylene dicarboxylate, and Boc-deprotection and deesterification of V [R<sub>4</sub> = MeOOCCH<sub>2</sub>CH(COOMe)NH] afforded I {A1 = A2 = A3 = CH<sub>2</sub>; A4 = N; A5 = CO; D1-D4 = CH; R = 8-[HO<sub>2</sub>CCH<sub>2</sub>CH(CO<sub>2</sub>H)NH]; R1 = H; R2 = H; R3 = 2-[4-(H<sub>2</sub>NCH<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>]}. Compds. I inhibit [3H]-SK&F 107260 binding with K<sub>i</sub> of 40-100 μM.

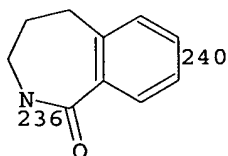
## MSTR 1A

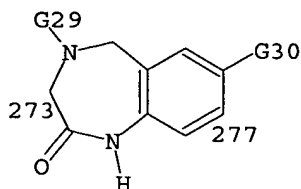
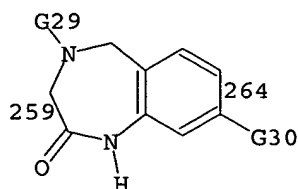
G6—G1—G19  
3 2 1

G1 = any ring <containing up to 4 heteroatoms, 0-4 N, 0-2 O, 0-2 S (no other heteroatoms), 7 or more C, aromatic, 6 or more normalized bonds, 2 C fusion atoms, bicyclic, (1) 6-membered ring, (1) 7-membered ring only> (opt. substd.) / 5 / 8 / (Specifically claimed: 236-3 240-1 / 248-3 251-1 / 259-3 264-1 / 273-3 277-1 )

G2=O  
5

O=G2=O  
8



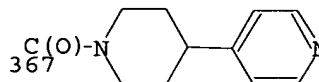
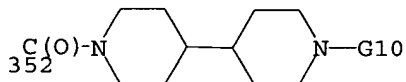


- G2 = heterocycle <containing 1-4 heteroatoms, up to 3 N, 0-1 O, 1-2 S (no other heteroatoms), 7 or more C, attached through 1 S, aromatic, 6 or more normalized bonds, 2 C fusion atoms, bicyclic, (1) 6-membered ring, (1) 7-membered ring only> (opt. substd.) / heterocycle <containing 1-4 heteroatoms, 1-4 N, 0-2 O, 0-2 S (no other heteroatoms), 7 or more C, attached through 1 N, aromatic, 6 or more normalized bonds, 2 C fusion atoms, bicyclic, (1) 6-membered ring, (1) 7-membered ring only> (opt. substd.)
- G3 = bond / heterocycle <containing 1-3 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), mono- or bicyclic> (opt. substd.) / carbocycle <containing 3-7 C, up to 2 double bonds, up to 7-membered monocyclic ring> (opt. substd.) / phenylene / carbocycle <containing 6-10 C, aromatic, bonds all normalized, mono- or bicyclic, (1-2) 6-membered rings only> (opt. substd.) / 12-98 13-169

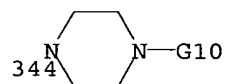
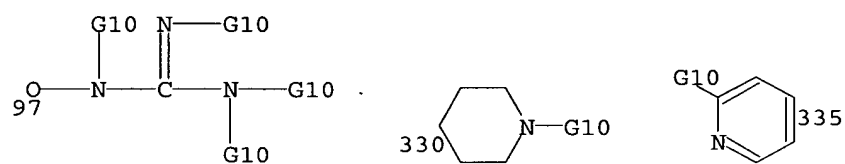
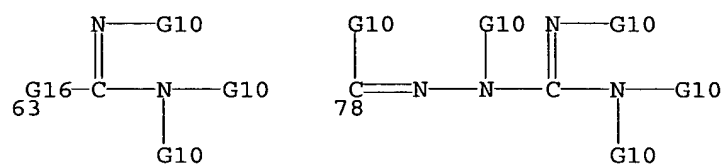
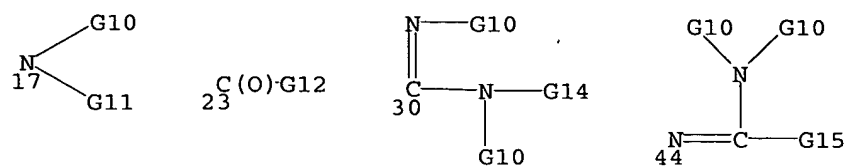
G7—G5  
12 13

- G5 = heterocycle <containing 1-3 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), mono- or bicyclic> (opt. substd.) / carbocycle <containing 3-7 C, up to 2 double bonds, up to 7-membered monocyclic ring> (opt. substd.) / phenylene / carbocycle <containing 6-10 C, aromatic, bonds all normalized, mono- or bicyclic, (1-2) 6-membered rings only> (opt. substd.)
- G6 = 169 / (Examples: 352 / 367)

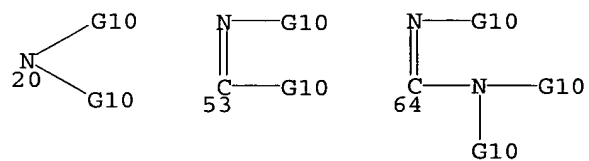
G27—G3—G9  
169 4 98



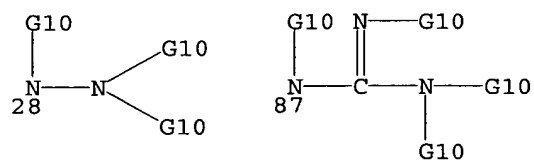
- G7 = alkylene (opt. substd.) / (Example: CH<sub>2</sub>)
- G9 = 17 / 23 / 30 / 44 / 63 / 78 / 97 / heterocycle <containing 1-3 heteroatoms, 1-3 N, 0-1 O, 0-1 S (no other heteroatoms), mono- or bicyclic> (opt. substd.) / (Examples: 330 / 335 / 344)



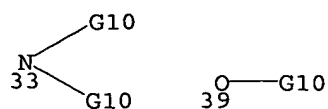
G10 = H / R  
 G11 = H / R / 20 / 53 / 64



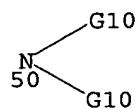
G12 = 28 / 87



G14 = 33 / 39 / H / R / OH

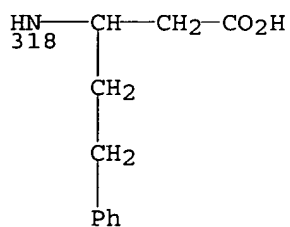
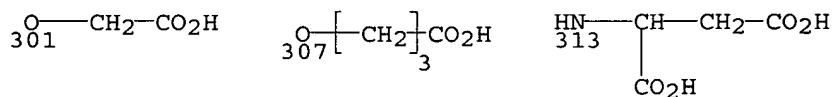
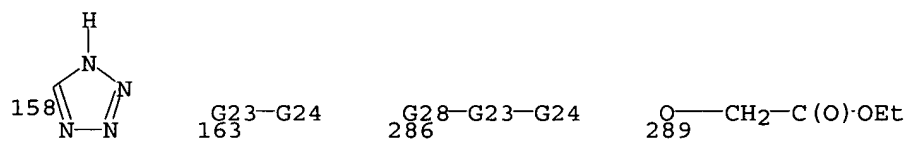
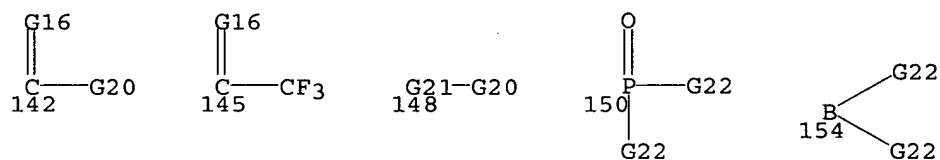


G15 = H / R / 50



G16 = O / S

G19 = 142 / 145 / alkylcarbonyl (substd.) / 148 / 150 /  
 154 / NO2 / 158 / 163 / 286 / (Specifically claimed: 289 /  
 301 / 307 / 313 / 318)

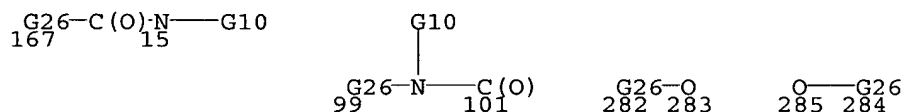


G20 = OH (opt. substd.) / NH2 (opt. substd.)  
 G21 = S(O) / SO2  
 G22 = OH (opt. substd.)  
 G23 = alkylene <containing 1-4 C> /  
 alkenylene <containing 2-4 C> /

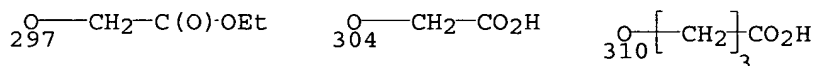
alkynylene &lt;containing 2-4 C&gt; / 165

$$\begin{array}{c} \text{G25=O} \\ 165 \end{array}$$

- G24 = H / R / cycloalkyl <containing 3-6 C>  
 (opt. substd.) / heterocycle <containing 1-3 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), mono- or bicyclic>  
 (opt. substd.) / Ph (opt. substd.) /  
 carbocycle <containing 10 C, aromatic, bonds all normalized,  
 bicyclic, (2) 6-membered rings> (opt. substd.)
- G25 = carbon chain <containing 1-4 C,  
 0 or more double bonds, 0 or more triple bonds>  
 (opt. substd.)
- G26 = (0-2) CH<sub>2</sub>
- G27 = R / (Specifically claimed: 167-4 15-2 /  
 99-4 101-2 / 282-4 283-2 / 285-4 284-2 )



- G28 = O / NH
- G29 = H / COMe
- G30 = H / R / 297 / 304 / 310



Derivative: or pharmaceutically acceptable salts

Patent location: claim 1

L71 ANSWER 118 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 124:260620 MARPAT

TITLE: Preparation of naphthylbenzoates and analogs useful in  
 modulating gene expression of retinoid responsive  
 genes and/or having anti-AP-1 activity

INVENTOR(S): Pfahl, Magnus; Lee, Mi-Ock; Dawson, Marcia I.; Hobbs,  
 Peter D.; Fanjul, Andrea; Jong, Ling; Graupner,  
 Gerhart; Lu, Xian-ping

PATENT ASSIGNEE(S): Sri International, USA; La Jolla Cancer Research  
 Foundation

SOURCE: PCT Int. Appl., 156 pp.  
 CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9533745	A2	19951214	WO 1995-US7390	19950607
WO 9533745	A3	19960502		

W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT

RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

AU 9528233 A1 19960104 AU 1995-28233 19950607

PRIORITY APPLN. INFO.: US 1994-255345 19940607

US 1994-326775 19941020

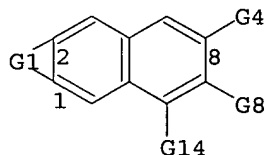
US 1995-468035 19950606

WO 1995-US7390 19950607

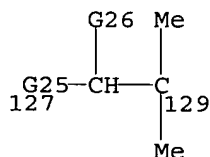
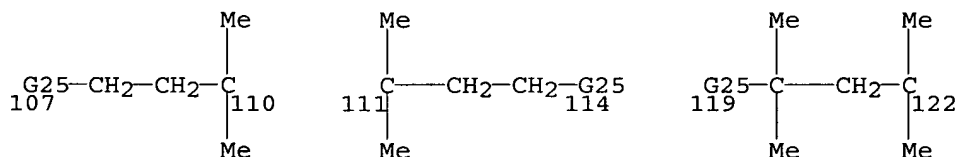
AB Title compds. [e.g., I; R1 = alkyl, 1-methylcyclohexyl, adamantyl; R2 = alkoxy, alkylthio; R1R2 = alkylene; R3 = (carboxy)phenyl, (carboxy) 3-pyridyl, (carboxy) 2-thienyl, CH:CHCR7:CHCO2H; R4 = H, OH, alkyl, alkoxy, etc.; R5 = H, OH, alkyl, alkoxy, etc.; R7 = H or Me] were prepared. Thus, 2-bromonaphthalene was cyclocondensed with Me2CClCH2CH2CMe2Cl and the product converted in 4 steps to bromotetrahydroanthracene II (R3 = Br) which was condensed with 4-(EtO2C)C6H4B(OH)2 to give, after saponification, II

[R3 = C6H4(CO2Et)-4]. Test data for I activity were given.

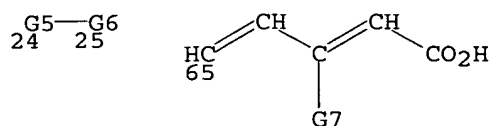
#### MSTR 1B



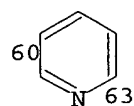
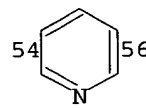
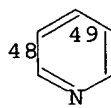
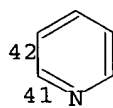
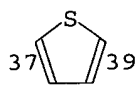
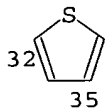
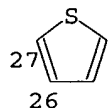
G1 = alkylene <containing 3-4 C>  
(opt. substd. by (1-6) alkyl <containing 1-6 C>) /  
R <"group to complete heterocyclic ring",  
containing 1-2 heteroatoms, zero or more O, zero or more S,  
zero or more N (no other heteroatoms)>  
(opt. substd. by alkyl <containing 1-6 C>) /  
(Examples: 107-1 110-2 / 111-1 114-2 / 119-1 122-2 /  
127-1 129-2 )



G4 = 24 / 65



G5 = phenylene / 27-8 26-25 / 32-8 35-25 /  
 37-8 39-25 / 42-8 41-25 / 48-8 49-25 / 54-8 56-25 /  
 60-8 63-25

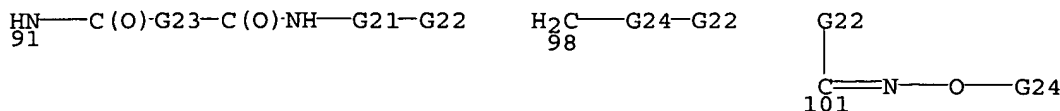
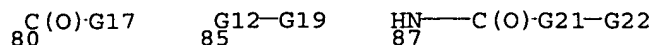


G6 = H / CO<sub>2</sub>H  
 G7 = H / Me  
 G8 = H / OH / alkyl <containing 1-6 C>  
 (opt. substd. by (1-6) G9) / alkoxy <containing 1-6 C>  
 (opt. substd. by (1-6) G9) / NH<sub>2</sub> /  
 alkylamino <containing 1-6 C> /  
 dialkylamino <each alkyl containing 1-6 C> / CN / CO<sub>2</sub>H / 72 /  
 Ph (opt. substd. by (1-5) G11) / 74

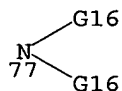
$\begin{array}{c} \text{C(O)-G10} \\ 72 \end{array}$ 
 $\begin{array}{c} \text{G12-G13} \\ 74 \end{array}$

G9 = halo / OH / alkoxy <containing 1-6 C> / NH<sub>2</sub> /  
 alkylamino <containing 1-6 C> /  
 dialkylamino <each alkyl containing 1-6 C>  
 G10 = alkyl <containing 1-6 C>  
 (opt. substd. by (1-6) G9) / NH<sub>2</sub> /  
 alkylamino <containing 1-6 C> /  
 dialkylamino <each alkyl containing 1-6 C> /  
 alkoxy <containing 1-6 C> / NH<sub>2</sub> /  
 alkylamino <containing 1-6 C> /  
 dialkylamino <each alkyl containing 1-6 C>  
 G11 = OH / alkyl <containing 1-6 C>  
 (opt. substd. by (1-6) G9) / alkoxy <containing 1-6 C>  
 (opt. substd. by (1-6) G9)  
 G12 = (1-6) CH<sub>2</sub>  
 G13 = Ph (opt. substd. by (1-5) G11)  
 G14 = H / OH / alkyl <containing 1-6 C>  
 (opt. substd. by (1-6) G15) / alkoxy <containing 1-6 C>  
 (opt. substd. by (1-6) G15) / NH<sub>2</sub> /  
 alkylamino <containing 1-6 C> /  
 dialkylamino <each alkyl containing 1-6 C> / CN / CO<sub>2</sub>H / 80 /  
 Ph (opt. substd. by (1-5) G18) / 85 / 87 / 91 / 98 / 101

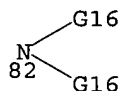




G15 = halo / OH / alkoxy <containing 1-6 C> / NH2 /  
alkylamino <containing 1-6 C> / 77



G16 = alkyl <containing 1-6 C> /  
cycloalkyl <containing 3-8 C>  
G17 = alkyl <containing 1-6 C>  
(opt. substd. by (1-6) G9) / NH2 /  
alkylamino <containing 1-6 C> / 82 /  
alkoxy <containing 1-6 C>



G18 = OH / alkyl <containing 1-6 C>  
(opt. substd. by (1-6) G20) / alkoxy <containing 1-6 C>  
(opt. substd. by (1-6) G20)  
G19 = Ph (opt. substd. by (1-5) G18)  
G20 = halo / OH / alkoxy <containing 1-6 C> / NH2 /  
alkylamino <containing 1-6 C> /  
dialkylamino <each alkyl containing 1-6 C> / SMe / S(O)Me /  
SO2Me  
G21 = (1-6) CH2  
G22 = alkyl <containing 1-6 C> (opt. substd. by (1-6) F)  
G23 = (1-10) CH2  
G24 = alkyl <containing 1-6 C>  
G25 = O / S / CMe2 / CH2  
G26 = H / Me

Conditional variable data: IF G8 = H THEN NOT G14 = H / NH2  
Derivative: or pharmaceutically acceptable esters, amides, or  
salts  
Patent location: claim 1

L71 ANSWER 119 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 124:87811 MARPAT  
TITLE: Preparation of lipopeptide A 1437 derivatives as  
antibacterials.  
INVENTOR(S): Lattrell, Rudolf; Wollmann, Theodor; Wallmeier,  
Holger; Hammann, Peter; Isert, Dieter  
PATENT ASSIGNEE(S): Hoechst A.-G., Germany  
SOURCE: Ger. Offen., 15 pp.  
CODEN: GWXXBX

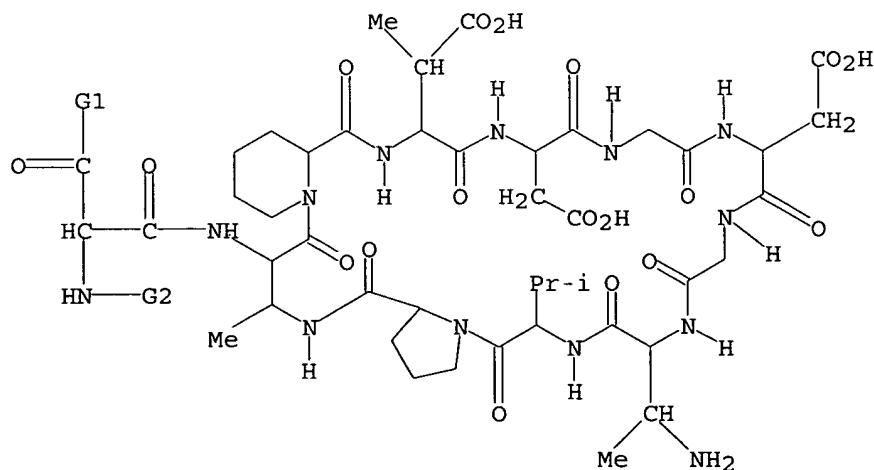
DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 4411025	A1	19951005	DE 1994-4411025	19940330
IN 179210	A	19970913	IN 1994-MA717	19940801
EP 688789	A1	19951227	EP 1995-104376	19950324
EP 688789	B1	20020619		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE				
AT 219499	E	20020715	AT 1995-104376	19950324
PT 688789	T	20021129	PT 1995-104376	19950324
ES 2178657	T3	20030101	ES 1995-104376	19950324
FI 9501468	A	19951001	FI 1995-1468	19950328
AU 9516110	A1	19951012	AU 1995-16110	19950328
AU 696566	B2	19980910		
CN 1111640	A	19951115	CN 1995-103621	19950328
US 5629288	A	19970513	US 1995-411931	19950328
IL 113160	A1	19990411	IL 1995-113160	19950328
CZ 287158	B6	20001011	CZ 1995-779	19950328
CA 2145826	AA	19951001	CA 1995-2145826	19950329
NO 9501198	A	19951002	NO 1995-1198	19950329
JP 07278186	A2	19951024	JP 1995-70290	19950329
JP 3653119	B2	20050525		
ZA 9502555	A	19951221	ZA 1995-2555	19950329
HU 71584	A2	19951228	HU 1995-909	19950329
HU 218286	B	20000728		
RU 2141970	C1	19991127	RU 1995-106362	19950329
PL 180274	B1	20010131	PL 1995-307914	19950329
HK 1012017	A1	20030207	HK 1998-113243	19981212
			DE 1994-4411025	19940330

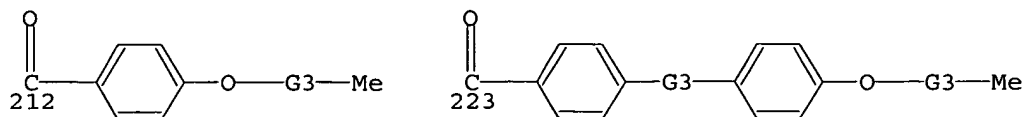
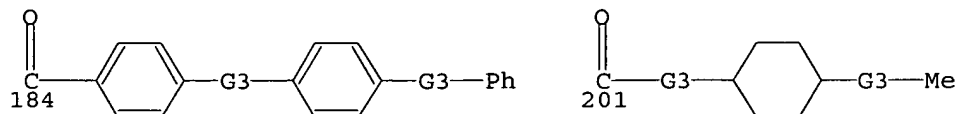
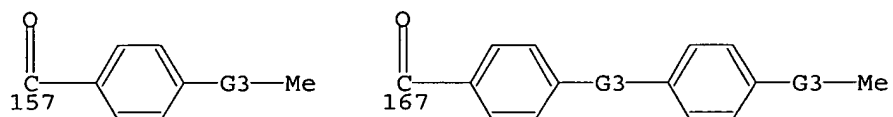
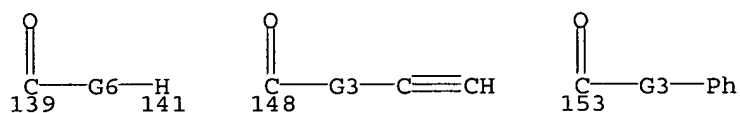
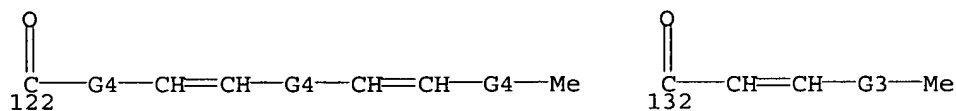
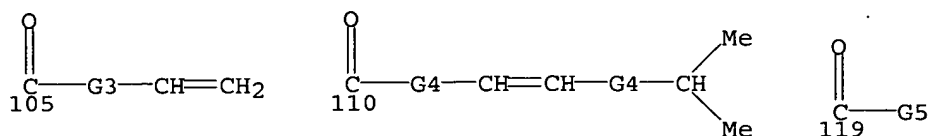
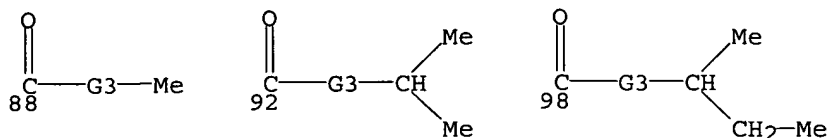
## PRIORITY APPLN. INFO.:

AB Title compds. (I; R1 = OH, NH<sub>2</sub>; R2 = (unsatd.) C8-22 acyl which may be interrupted by Ph, cycloalkyl, O), were prepared as antibacterials (no data). Preferred I, prepared from lipopeptide A 1437 by N-protection, deacylation using *Actinoplanes utahensis*, and reacylation, showed reduced hemolytic activity.

## MSTR 1

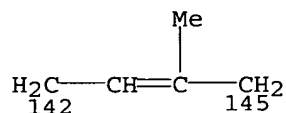


G1 = OH / NH<sub>2</sub>  
 G2 = acyl / (Specifically claimed: 88 / 92 / 98 / 105 /  
 110 / 119 / COMe / 122 / 132 / 139 / 148 / 153 / 157 / 167 /  
 184 / 201 / 212 / 223)



G3 = (0-20) CH<sub>2</sub>  
 G4 = bond / alkylene <containing 1-20 C, unbranched>  
 G5 = alkenyl <containing 3 or more C,

1 or more double bonds, unbranched> /  
 alkynylene <containing 3-43 C, 1 triple bond, unbranched> /  
 alkynylene <containing 5-45 C, 2 triple bonds, unbranched>  
 G6 = (1-20) 142-139 145-141



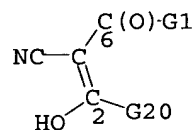
Derivative: and pharmaceutically acceptable salts  
 Patent location: claim 1

L71 ANSWER 120 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 123:285992 MARPAT  
 TITLE: Preparation of isoxazole-4-carboxylates,  
 2-cyano-3-hydroxyacrylates, and analogs as  
 immunosuppressants  
 INVENTOR(S): Coghlan, Michael J.; Luly, Jay R.; Wiedeman, Paul E.  
 PATENT ASSIGNEE(S): Abbott Laboratories, USA  
 SOURCE: PCT Int. Appl., 99 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9424095	A1	19941027	WO 1994-US4045	19940414
W: CA, JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
PRIORITY APPLN. INFO.:			US 1993-48499	19930416
			US 1993-56500	19930503

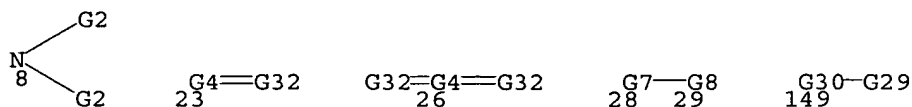
AB HOCG:C(CN)COE, GCOC(CN)COE, and isoxazoles I (D = H, alkyl, CHO, CO<sub>2</sub>H, alkoxy carbonyl, etc.; E = H, NH<sub>2</sub>, OH, Me, etc.; G = H, alkyl, Ph, etc.) were prepared. Thus, prepared isoxazolecarboxamide II gave 94 and 99% inhibition of human mixed lymphocyte reaction and allogenic mixed leukocyte response, resp., at 10 $\mu$ M.

# MSTR 2A

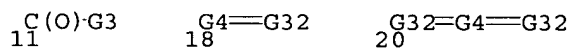


G1 = H / 8 / cycloalkyl <containing 3-14 C, mono- or bicyclic, 3-, 4-, 5-, 6-, 7- or 8-membered rings only> (opt. substd.) / cycloalkenyl <mono- or bicyclic> (opt. substd.) / carbocycle <1 or more triple bonds, no double bonds> (opt. substd.) / aryl (opt. substd.) / heterocycle <containing 1-3 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms),

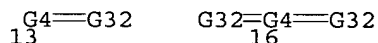
1-4 rings, (0-3) 5-membered, 0 or more 6-membered,  
(0-3) 7-membered rings only> (opt. substd.) / 23 /  
26 / 28 /  
149



G2 = H / alkyl <containing 1-12 C>  
(opt. substd. by 1 or more G5) /  
alkenyl <containing 2-10 C> (opt. substd.) / 11 /  
aryl (opt. substd.) / heterocycle <containing 1-3  
heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms), 1-4 rings,  
(0-3) 5-membered, 0 or more 6-membered,  
(0-3) 7-membered rings only> (opt. substd.) / 18 /  
20 /  
cycloalkyl <containing 3-8 C> (opt. substd.) /  
arylsulfonyl (opt. substd.)



G3 = alkyl <containing 1-12 C> (opt. substd.) /  
heterocycle <containing 1-3 heteroatoms, zero or more N,  
zero or more O, zero or more S (no other heteroatoms),  
1-4 rings, (0-3) 5-membered, 0 or more 6-membered,  
(0-3) 7-membered rings only> (opt. substd.) / 13 / 16 /  
aryl (opt. substd.)

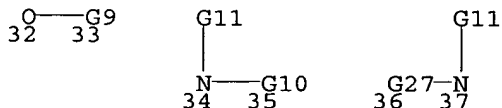


G4 = heterocycle <containing 1-3 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), 1-4 rings,  
(0-3) 5-membered, 0 or more 6-membered,  
(0-3) 7-membered rings only> (opt. substd.)

G5 = R / aryl (opt. substd.) / OH

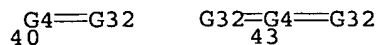
G6 = cycloalkyl <containing 3-13 C, mono- or bicyclic,  
3-, 4-, 5-, 6-, 7- or 8-membered rings only> (opt. substd.) /  
R

G7 = O / 32-6 33-29 / 34-6 35-29 / 36-6 37-29 / S /  
S(O) / SO2 / NH (opt. substd.) / N=N

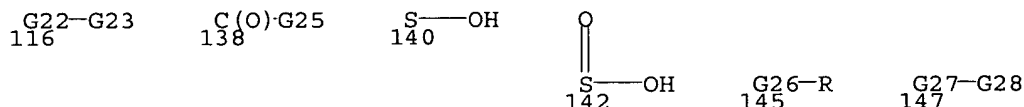
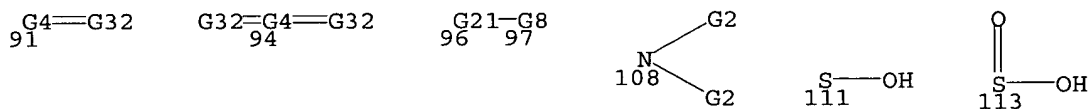


G8 = aryl (opt. substd.) / heterocycle <containing 1-3  
heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms), 1-4 rings,  
(0-3) 5-membered, 0 or more 6-membered,

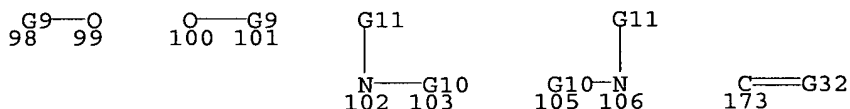
(0-3) 7-membered rings only> (opt. substd.) / 40 /  
43



G9 = alkylene <containing 1-6 C, unbranched>  
G10 = C(O) / S(O) / SO2  
G11 = H / R  
G20 = heterocycle <containing 1-3 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), 1-4 rings,  
(0-3) 5-membered, 0 or more 6-membered,  
(0-3) 7-membered rings only> (opt. substd.) / 91 /  
94 /  
aryl (opt. substd.) / 96 / H / 108 /  
carbon chain <0 or more double bonds, 0 or more triple bonds>  
(opt. substd. by G6) / cycloalkyl <containing 3-14 C,  
mono- or bicyclic, 3-, 4-, 5-, 6-,  
7- or 8-membered rings only> (opt. substd.) /  
cycloalkenyl <mono- or bicyclic> (opt. substd.) /  
carbocycle <1 or more triple bonds, no double bonds>  
(opt. substd.) / OH / SH / 111 / 113 / NH2 / 116 / F / Cl /  
Br / I / CN / 138 / OH (opt. substd.) / NO2 / N3 /  
NHC(NH)NH2 (opt. substd.) / SH / 140 / 142 / 145 / 147

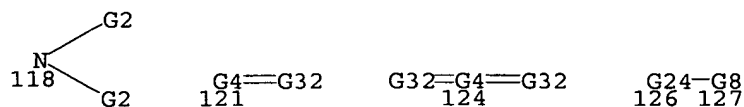


G21 = carbon chain <containing 1-6 C,  
0 or more double bonds, 0 or more triple bonds> / O /  
98-2 99-97 / 100-2 101-97 / 102-2 103-97 / 105-2 106-97 /  
S / S(O) / SO2 / NH (opt. substd.) / 173 / N=N

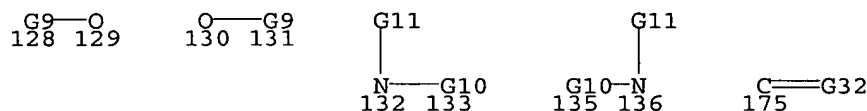


G22 = O / S / S(O) / SO2 / NH (opt. substd.)  
G23 = 118 / alkyl <containing 1-10 C>  
(opt. substd. by G6) / cycloalkyl <containing 3-14 C,  
mono- or bicyclic, 3-, 4-, 5-, 6-,  
7- or 8-membered rings only> (opt. substd.) /  
alkenyl <containing 2-10 C> (opt. substd.) /  
cycloalkenyl <mono- or bicyclic> (opt. substd.) /  
alkynyl <containing 3-10 C> (opt. substd.) /  
carbocycle <1 or more triple bonds, no double bonds>

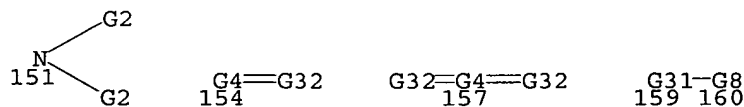
(opt. substd.) / aryl (opt. substd.) /  
 heterocycle <containing 1-3 heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 1-4 rings, (0-3) 5-membered, 0 or more 6-membered,  
 (0-3) 7-membered rings only> (opt. substd.) / 121 /  
 124 /  
 126



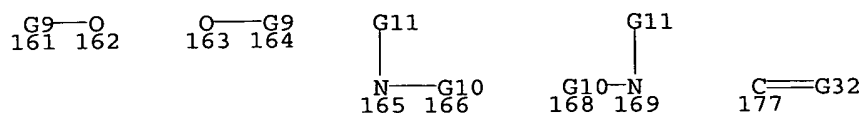
G24 = carbon chain <containing 1-6 C,  
 0 or more double bonds, 0 or more triple bonds> / O /  
 128-116 129-127 / 130-116 131-127 / 132-116 133-127 /  
 135-116 136-127 / S / S(O) / SO2 / NH (opt. substd.) / 175 /  
 N=N



G25 = H / OH (opt. substd.) / NH2 (opt. substd.)  
 G26 = S / S(O) / SO2  
 G27 = S(O) / SO2  
 G28 = NH2 (opt. substd.)  
 G29 = H / 151 / alkyl <containing 1-10 C>  
 (opt. substd. by G6) / cycloalkyl <containing 3-14 C,  
 mono- or bicyclic, 3-, 4-, 5-, 6-,  
 7- or 8-membered rings only> (opt. substd.) /  
 alkenyl <containing 2-10 C> (opt. substd.) /  
 cycloalkenyl <mono- or bicyclic> (opt. substd.) /  
 alkynyl <containing 3-10 C> (opt. substd.) /  
 carbocycle <1 or more triple bonds, no double bonds>  
 (opt. substd.) / aryl (opt. substd.) /  
 heterocycle <containing 1-3 heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 1-4 rings, (0-3) 5-membered, 0 or more 6-membered,  
 (0-3) 7-membered rings only> (opt. substd.) / 154 /  
 157 /  
 159



G30 = NH (opt. substd.) / S / O  
 G31 = carbon chain <containing 1-6 C,  
 0 or more double bonds, 0 or more triple bonds> / O /  
 161-149 162-160 / 163-149 164-160 / 165-149 166-160 /  
 168-149 169-160 / S / S(O) / SO2 / NH (opt. substd.) / 177 /  
 N=N



G32 = O / S

Derivative: and pharmaceutically acceptable salts, esters and prodrugs

Patent location: claim 1

Note: substitution is restricted

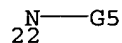
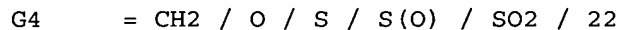
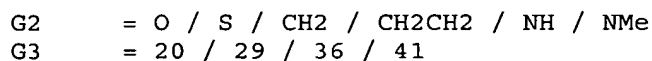
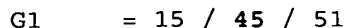
L71 ANSWER 121 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 123:266115 MARPAT  
 TITLE: Protease inhibitors for treatment and/or prevention of HIV infection  
 INVENTOR(S): Hornback, William Joseph; Munroe, John Edwin; Shepherd, Timothy Alan  
 PATENT ASSIGNEE(S): Eli Lilly and Co., USA  
 SOURCE: PCT Int. Appl., 128 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9520962	A1	19950810	WO 1994-US11350	19941006
W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LT, LU, LV, MD, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, UZ, VN				
RW: KE, MW, SD, SZ, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2182192	AA	19950810	CA 1994-2182192	19941006
AU 9479302	A1	19950821	AU 1994-79302	19941006
AU 700417	B2	19990107		
EP 744948	A1	19961204	EP 1994-930062	19941006
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE				
CN 1145587	A	19970319	CN 1994-195067	19941006
PRIORITY APPLN. INFO.:				
			US 1994-190810	19940202
			WO 1994-US11350	19941006

AB The present invention relates to compds. and their pharmaceutically acceptable salts that inhibit the protease encoded by human HIV type 1 or type 2. The compds. are useful in the treatment and/or prevention of infection caused by HIV. The compds., their salts, and the pharmaceutical compns. of the present invention can be used alone or in combination with other antivirals, immunomodulators, antibiotics, or vaccines. Methods of treating or preventing AIDS, methods of treating or preventing HIV infection and methods of inhibiting replication are disclosed.

MSTR 1





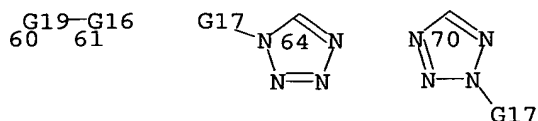
O<sub>2</sub>S—G8  
49

$$\text{H}_2\text{C} \text{---} \text{O} \text{---} \text{G10}$$

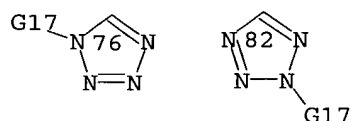
56

Page 811

0 or more double bonds, no triple bonds, mono- or bicyclic>  
 (opt. substd. by 1 or more G13) /  
 alkyl <containing 1-4 C> (substd. by G15) / 60 / 64 / 70



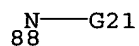
- G12 = F / Cl / Br / I / OH / alkoxy <containing 1-4 C>  
 G13 = F / Cl / Br / I / OH /  
 alkyl <containing 1-4 C> (opt. substd. by 1 or more G14)  
 G14 = F / Cl / Br / I  
 G15 = carbocycle <containing 6-10 C, aromatic,  
 bonds all normalized, mono- or bicyclic,  
 (1-2) 6-membered rings> (opt. substd.) /  
 heterocycle <containing 1 or more heteroatoms,  
 zero or more O, zero or more S,  
 zero or more N (no other heteroatoms),  
 0 or more double bonds, no triple bonds, mono- or bicyclic>  
 (opt. substd.)  
 G16 = carbocycle <containing 6-10 C, aromatic,  
 bonds all normalized, mono- or bicyclic,  
 (1-2) 6-membered rings> (opt. substd. by 1 or more G12) /  
 heterocycle <containing 1 or more heteroatoms,  
 zero or more O, zero or more S,  
 zero or more N (no other heteroatoms),  
 0 or more double bonds, no triple bonds, mono- or bicyclic>  
 (opt. substd. by 1 or more G13) /  
 alkyl <containing 1-4 C> (substd. by G15) / 76 / 82



- G17 = H / alkyl <containing 1-4 C> /  
 carbocycle <containing 6-10 C, aromatic,  
 bonds all normalized, mono- or bicyclic,  
 (1-2) 6-membered rings> (opt. substd. by 1 or more G12)  
 G19 = alkylene <containing 1-2 C, unbranched> /  
 alkenylene <containing 2-4 C> /  
 alkynylene <containing 2-4 C> / 86-46 87-61 / 91-46 90-61  
 /  
 NH / 92 / C(O) / O / S / S(O) / SO2 / 94-46 95-61



- G20 = O / NH / 88



- G21 = alkyl <containing 1-4 C>  
 G22 = alkylene <containing 1-2 C, unbranched>

G23 = alkenylene <containing 2-4 C> /  
 alkynylene <containing 2-4 C> / 96-94 97-61 / 99-94 98-61 /  
 NH / 100 / C(O) / O / S / S(O) / SO<sub>2</sub>

$\begin{array}{c} \text{C(O)}\text{---G20} \\ 96 \quad 97 \end{array}$       $\begin{array}{c} \text{G20}\text{---C(O)} \\ 99 \quad 98 \end{array}$       $\begin{array}{c} \text{N}\text{---G21} \\ 100 \end{array}$

G24 = R <"amino acid side chain">  
 G25 = (1-5) CH<sub>2</sub>  
 G26 = Ph (opt. substd. by 1 or more G12) /  
 naphthyl (opt. substd. by 1 or more G12) / 104

$\begin{array}{c} \text{G27}\text{---G28} \\ 104 \end{array}$

G27 = O / S  
 G28 = Ph (opt. substd. by 1 or more G12) /  
 naphthyl (opt. substd. by 1 or more G12)  
 G29 = NH<sub>2</sub> / alkylamino <containing 1-6 C>  
 (opt. substd. by OH) / dialkylamino <each alkyl containing  
 1-6 C> (opt. substd. by OH) / (Specifically claimed: 122)

$\begin{array}{c} \text{HN}\text{---Bu-t} \\ 122 \end{array}$

G31 = 124-4 128-5 / 133-4 129-5 / R /  
 (Specifically claimed: 119-4 121-5 )

$\begin{array}{c} \text{H}_2\text{C}\text{---CH}_2\text{---S} \\ 119 \quad 121 \end{array}$       $\begin{array}{c} \text{G32}\text{---G34}\text{---G32}\text{---G33}\text{---G32} \\ 124 \quad 128 \end{array}$       $\begin{array}{c} \text{G32}\text{---G33}\text{---G32}\text{---G34}\text{---G32} \\ 133 \quad 129 \end{array}$

G32 = alkylene <containing 1-2 C> (opt. substd.) / **bond**

G33 = O / S / NH (opt. substd.)

G34 = O / S / **bond**

Derivative: and pharmaceutically acceptable salts

Patent location: claim 1

Note: substitution is restricted

L71 ANSWER 122 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 123:256357 MARPAT  
 TITLE: Preparation of anthranilic acid amide derivative as  
 cyclic guanosine monophosphate-phosphodiesterase  
 inhibitors  
 INVENTOR(S): Ozaki, Fumihiko; Ishibashi, Keiji; Ikuta, Hironori;  
 Ishihara, Hiroki; Souda, Shigeru  
 PATENT ASSIGNEE(S): Japan  
 SOURCE: PCT Int. Appl., 204 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 9518097 A1 19950706 WO 1994-JP2262 19941227  
 W: AU, CA, CN, FI, HU, KR, NO, NZ, RU, US  
 RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE  
 CA 2155662 AA 19950706 CA 1994-2155662 19941227  
 AU 9512824 A1 19950717 AU 1995-12824 19941227  
 AU 694465 B2 19980723  
 EP 686625 A1 19951213 EP 1995-903999 19941227  
 EP 686625 B1 19990526  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE  
 CN 1118595 A 19960313 CN 1994-191311 19941227  
 JP 08188563 A2 19960723 JP 1994-336920 19941227  
 HU 74450 A2 19961230 HU 1995-2512 19941227  
 RU 2128644 C1 19990410 RU 1995-120194 19941227  
 AT 180468 E 19990615 AT 1995-903999 19941227  
 FI 9503968 A 19951019 FI 1995-3968 19950823  
 NO 9503305 A 19951025 NO 1995-3305 19950823  
 US 5716993 A 19980210 US 1995-507476 19950914

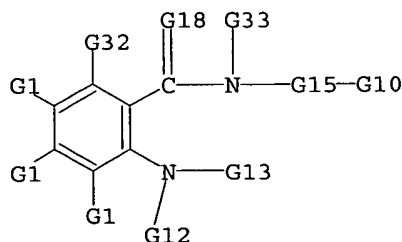
PRIORITY APPLN. INFO.:

JP 1993-347092 19931227  
 JP 1994-299110 19941109  
 WO 1994-JP2262 19941227

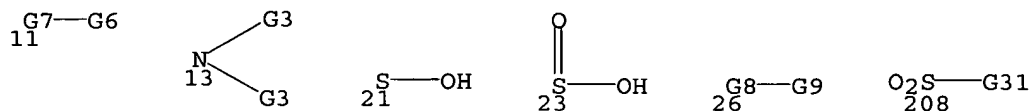
AB Anthranilamide derivs. [I; R1, R2, R3, R4 = H, halo, OH, (halo)alkyl, (halo)alkoxy, nitro, hydroxyalkyl, cyano, (CH2)pNR9R10, S(O)qR13, (un)protected CO2H, (un)substituted tetrazolyl, CONH2, pyrazolyl, or imidazolyl; or adjacent two substituents selected from R1 - R4 together with the C atoms bonded to them forms a ring; wherein R9, R10 = H, (halo)alkyl, arylalkyl, heteroarylalkyl, acyl, (un)protected CO2H; or NR9R10 forms a ring; p = 0, 1-6; R13 = H, (halo)alkyl; q = 0, 1-2; R5, R6 = H, halo, OH, cyano, (halo)alkyl, (halo)alkoxy; or R5 and R6 together with the C atoms bonded to them form cycloalkane, oxolane, 1,3-dioxolane, or 1,4-dioxane ring; W = N, CH; R7, R8 = H, (halo)alkyl; or R1 and R7 together with the C atoms bonded to them form a ring optionally containing other N, O, or S atom; A = H, (halo)alkyl, X(CH2)mZ; wherein X = CO, CS, CH2, SO2; Z = OH, (halo)alkoxy, cyano, halo, etc.; Y = O, S; n = 0, 1-6] or pharmacol. acceptable salts thereof are prepared. These compds. are useful for the treatment of ischemic heart disease, angina pectoris, hypertension, pulmonary hypertension, heart failure, and asthma. Thus, 2-nitro-5-chlorobenzoic acid was refluxed with SOCl2 in benzene for 4 h and concentrated to give 2-nitro-5-chlorobenzoyl chloride which was amidated with piperonylamine in the presence of Et3N in THF to give a benzamide (II; R = NO2). This compound was reduced by Fe powder in a mixture of AcOH, H2O, and MeOH under gentle refluxing to give, after concentration and treatment with concentrated HCl in EtOH, N-piperonylanthranilamide derivative II. HCl (R

= NH2). An anthranilamide derivative (III) showed IC50 of 0.4 nM against cyclic guanosine monophosphate-phosphodiesterase preparation from pig aorta.

#### MSTR 1



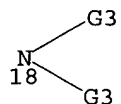
G1 = H / F / Cl / Br / I / OH /  
 alkyl <containing 1-6 C> (opt. substd. by 1 or more G2) /  
 alkoxy <containing 1-6 C> (opt. substd. by 1 or more G2) /  
 NO2 / alkyl <containing 1-6 C> (substd. by OH) / CN / 13 /  
 heterocycle <containing 1 or more heteroatoms, 1 or more N,  
 attached through 1 or more N> / 11 /  
 tetrazolyl (opt. substd.) / CO2H (opt. substd.) /  
 CONH2 (opt. substd.) / pyrazolyl (opt. substd.) /  
 imidazolyl (opt. substd.) / SH / 21 / 23 / 26 /  
 (Example: 208)



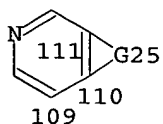
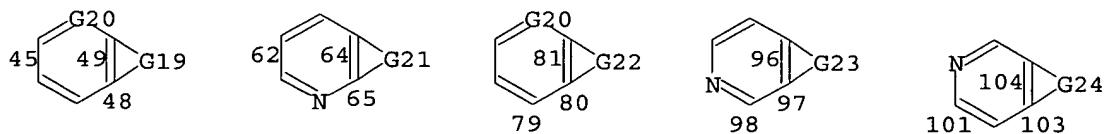
G2 = F / Cl / Br / I  
 G3 = H / alkyl <containing 1-6 C>  
 (opt. substd. by 1 or more G2) / 16 / acyl /  
 CO2H (opt. substd.)

G4—G5  
 16

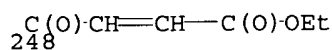
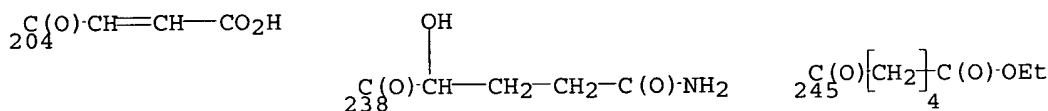
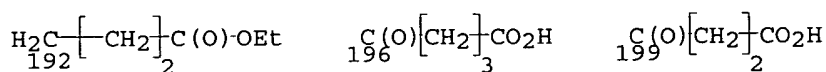
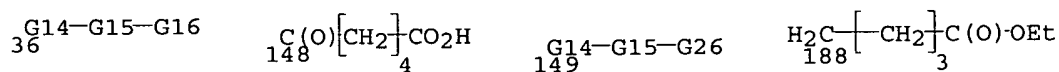
G4 = alkylene  
 G5 = aryl (opt. substd.) / heteroaryl (opt. substd.)  
 G6 = 18 / heterocycle <containing 1 or more heteroatoms,  
 1 or more N, attached through 1 or more N>



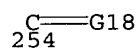
G7 = (1-6) CH2  
 G8 = S / S(O) / SO2  
 G9 = alkyl <containing 1-6 C>  
 (opt. substd. by 1 or more G2)  
 G10 = Ph (opt. substd. by (1-2) G11) /  
 pyridyl (opt. substd. by (1-2) G11) / 45 / 62 / 79 / 98 /  
 101 / 109



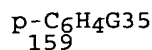
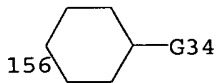
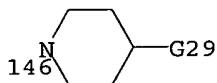
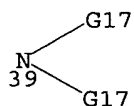
G11 = F / Cl / Br / I / OH / CN /  
 alkyl <containing 1-6 C> (opt. substd. by 1 or more G2) /  
 alkoxy <containing 1-6 C> (opt. substd. by 1 or more G2)  
 G12 = H / alkyl <containing 1-6 C>  
 (opt. substd. by 1 or more G2)  
 G13 = H / alkyl <containing 1-6 C>  
 (opt. substd. by 1 or more G2) / 36 / 149 /  
 (Examples: 245 /  
 248 / 188 / 192 / 196 / 199 / 148 / 204 / 238)

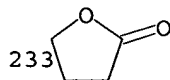
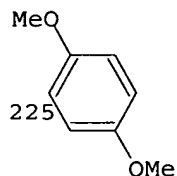
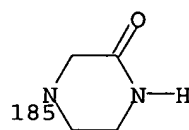
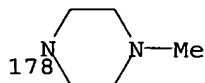
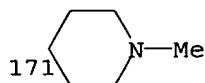
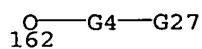


G14 = 254 / CH<sub>2</sub> / SO<sub>2</sub>

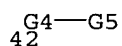


G15 = (0-6) CH<sub>2</sub>  
 G16 = OH / alkoxy <containing 1-6 C>  
 (opt. substd. by 1 or more G2) / F / Cl / Br / I /  
 aryl (opt. substd.) / aryloxy (opt. substd.) /  
 heteroaryl (opt. substd.) / 162 / 39 /  
 heterocycle <containing 1 or more heteroatoms, 1 or more N,  
 attached through 1 or more N> (opt. substd.) /  
 cycloalkyl <containing 3-8 C> (opt. substd.) /  
 (Examples: 146 / 4-pyridyl / 3-pyridyl / OPh / 156 / 159 /  
 171 / 178 / 185 / pyrrolidino / 225 / 233)

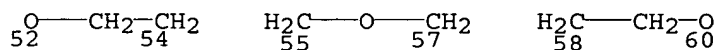




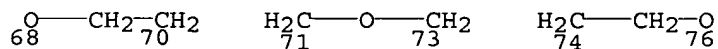
G17 = H / alkyl <containing 1-6 C>  
 (opt. substd. by 1 or more G2) / 42 / acyl /  
 CO2H (opt. substd.) / CONH2 (opt. substd.)



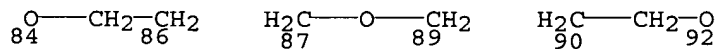
G18 = O / S  
 G19 = alkylene / 52-48 54-49 / 55-48 57-49 /  
 58-48 60-49 / OCH2O / OCH2CH2O



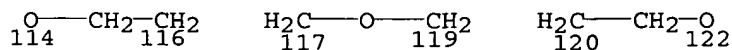
G20 = N / CH  
 G21 = alkylene / 68-64 70-65 / 71-64 73-65 /  
 74-64 76-65 / OCH2O / OCH2CH2O



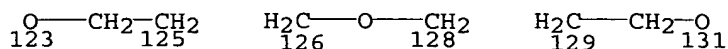
G22 = alkylene / 84-80 86-81 / 87-80 89-81 /  
 90-80 92-81 / OCH2O / OCH2CH2O



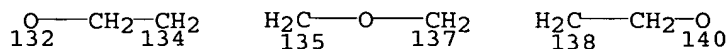
G23 = alkylene / 114-97 116-96 / 117-97 119-96 /  
 120-97 122-96 / OCH2O / OCH2CH2O



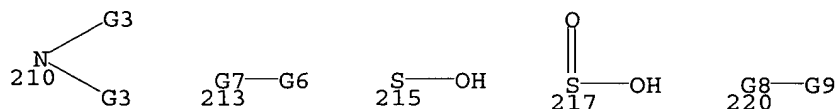
G24 = alkylene / 123-104 125-103 / 126-104 128-103 /  
 129-104 131-103 / OCH2O / OCH2CH2O



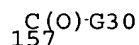
G25 = alkylene / 132-111 134-110 / 135-111 137-110 /  
138-111 140-110 / OCH2O / OCH2CH2O



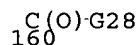
G26 = CN / CONH2 (opt. substd.)  
G27 = heteroaryl (opt. substd.)  
G28 = OEt / OMe / OH  
G29 = CO2Et / OH / H / CO2H  
G30 = OEt / OH  
G31 = NMe2 / NHMe  
G32 = H / F / Cl / Br / I / OH /  
alkyl <containing 1-6 C> (opt. substd. by 1 or more G2) /  
alkoxy <containing 1-6 C> (opt. substd. by 1 or more G2) /  
NO2 / alkyl <containing 1-6 C> (substd. by OH) / CN / 210 /  
heterocycle <containing 1 or more heteroatoms, 1 or more N,  
attached through 1 or more N> / 213 /  
tetrazolyl (opt. substd.) / CO2H (opt. substd.) /  
CONH2 (opt. substd.) / pyrazolyl (opt. substd.) /  
imidazolyl (opt. substd.) / SH / 215 / 217 / 220



G33 = H / alkyl <containing 1-6 C>  
(opt. substd. by 1 or more G2)  
G34 = 157 / CN / OCOMe / piperidino / OH



G35 = 160 / Bu-t / H



G32+G33= R <"moiety to complete ring"> / (Examples: CH2 /  
CH2CH2)

Derivative: or pharmaceutically acceptable salts  
Patent location: claim 1  
Note: additional ring formation allowed

L71 ANSWER 123 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 123:56563 MARPAT  
TITLE: Preparation of ras inhibitor prodrugs useful in  
treating tumors.  
INVENTOR(S): Springer, Caroline Joy; Marais, Richard



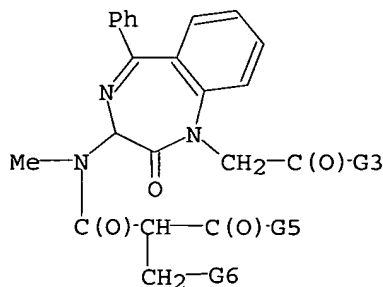
PATENT ASSIGNEE(S): UK  
SOURCE: PCT Int. Appl., 44 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9503830	A2	19950209	WO 1994-GB1610	19940727
WO 9503830	A3	19950406		
W: AU, CA, HU, JP, KR, NZ, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2167480	AA	19950209	CA 1994-2167480	19940727
AU 9472333	A1	19950228	AU 1994-72333	19940727
AU 693799	B2	19980709		
EP 711177	A1	19960515	EP 1994-921729	19940727
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
HU 73979	A2	19961028	HU 1995-3984	19940727
JP 09500896	T2	19970128	JP 1994-505647	19940727
US 5770731	A	19980623	US 1996-586637	19960419
PRIORITY APPLN. INFO.:			GB 1993-15494	19930727
			WO 1994-GB1610	19940727

OTHER SOURCE(S) : CASREACT 123:56563

AB FTLi-(PRRT)m (FTLi = ras inhibitor such as a farnesyltransferase inhibitor; PRT = protecting group capable of being cleaved by the action of an enzyme; m = 1- 5), were prepared for use in GDEPT/ADEPT systems for control of neoplasms (no data). Thus, prodrugs (I) and (II), which may be activated by nitroreductase, were prepared by solution phase methods.

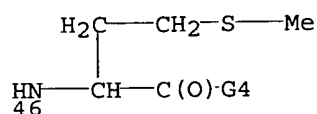
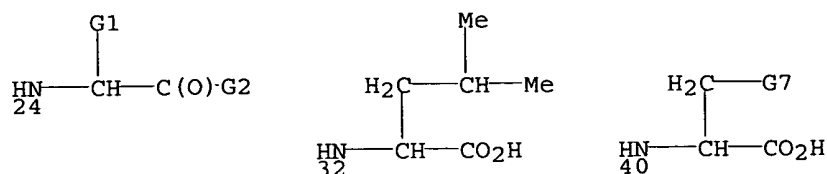
## MSTR 1



```
G1      = H / R <"amino acid side chain">
G2      = OH / OMe / NH2 / 72 / 78
```



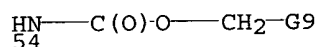
G3 = 24 / (Specifically claimed: 32 / 40 / 46)



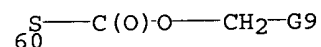
G4 = OH / NH<sub>2</sub> / 84 / 90



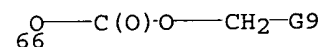
G5 = NH<sub>2</sub> / 54



G6 = SH / 60

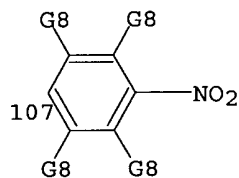
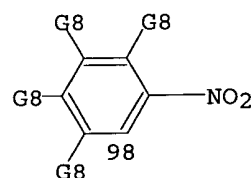


G7 = OH / 66



G8 = H / R / (Specifically claimed: F / Cl / Br / I / OH / SH / NH<sub>2</sub> / NO<sub>2</sub> / alkyl <containing 1-4 C> (opt. substd. by 1 or more halo) / alkoxy <containing 1-4 C> (opt. substd. by 1 or more halo) / alkenyl <containing 2-4 C> (opt. substd. by 1 or more halo) / alkynyl <containing 2-4 C>)

G9 = 98 / 107



Derivative:  
Patent location:  
Note:  
Note:

or protected derivatives  
claim 3  
also incorporates claim 9  
substitution is restricted

L71 ANSWER 124 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 122:187415 MARPAT  
 TITLE: Preparation of bicyclic fibrinogen antagonists  
 INVENTOR(S): Samanen, James  
 PATENT ASSIGNEE(S): Smithkline Beecham Corp., USA  
 SOURCE: PCT Int. Appl., 47 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9429273	A1	19941222	WO 1994-US6449	19940609
W: AU, BB, BG, BR, BY, CA, CN, CZ, FI, HU, JP, KP, KR, KZ, LK, MG, MN, MW, NO, NZ, PL, RO, RU, SD, SI, SK, UA, US, US, VN				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
ZA 9404019	A	19950118	ZA 1994-4019	19940608
AU 9471023	A1	19950103	AU 1994-71023	19940609
EP 702671	A1	19960327	EP 1994-920114	19940609
R: BE, CH, DE, FR, GB, IT, LI, NL				
JP 08511538	T2	19961203	JP 1995-502061	19940609
US 5602145	A	19970211	US 1995-445986	19950522
PRIORITY APPLN. INFO.:			US 1993-74248	19930609
			US 1994-222202	19940401
			WO 1994-US6449	19940609

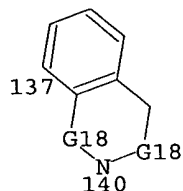
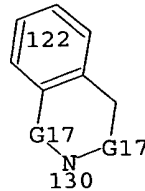
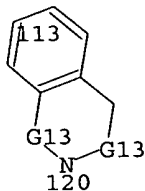
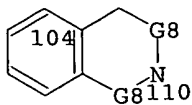
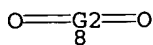
AB Title compds. I (A1-4 substituted (saturated) 6-membered ring optionally containing  $\leq 2$  of O, S, N wherein S, N may be oxidized; D1-4 = 6-membered ring optionally containing  $\leq 2$  N; R = carboxy, amino, C1-4 alkyl, C2-4 alkenyl, C2-4 alkynyl all optionally substituted, Ra = H, C1-6 alkyl, C1-6 oxoalkyl, C2-6 alkenyl, C3-6 cycloalkyl, Ar, heterocyclyl all optionally substituted; R6 = substituted aminocarbonyl, etc.) or a salt thereof, useful as platelet aggregation inhibitors, are prepared I are claimed for treating stroke or transient ischemic attacks or myocardial infarction, as fibrinolytic agent in the manufacture of a medicament for promoting reperfusion of an artery or vein and inhibiting reocclusion. To phenethylamine was added chloromethyl formate to give N-(methoxycarbonyl)phenethylamine, which was cyclized to tetrahydroisoquinolin-1-one, nitrated, reacted with Me bromoacetate, reduced to the amino derivative, protected and deprotected to give II. I demonstrated fibrinogen antagonistic activity and platelet aggregation inhibition. Pharmaceutical formulations comprising I are given.

# MSTR 1A

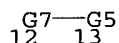
G6—G1—G19  
 3 2 1

G1 = any ring <containing up to 4 heteroatoms, 0-4 N, 0-2 O, 0-2 S (no other heteroatoms), 6 or more C, aromatic, 6 or more normalized bonds, 2 C fusion atoms, bicyclic, (2) 6-membered rings> (opt. substd.) / 5 / 8 /  
 (Specifically claimed: 104-3 110-1 / 113-3 120-1 /

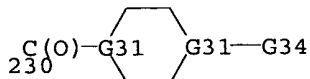
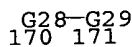
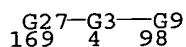
122-3 130-1 / 137-3 140-1 )



- G2 = heterocycle <containing 1-4 heteroatoms, up to 3 N, 0-1 O, 1-2 S (no other heteroatoms), 6 or more C, attached through 1 S, aromatic, 6 or more normalized bonds, 2 C fusion atoms, bicyclic, (2) 6-membered rings> (opt. substd.) / heterocycle <containing 1-4 heteroatoms, 1-4 N, 0-2 O, 0-2 S (no other heteroatoms), 6 or more C, attached through 1 N, aromatic, 6 or more normalized bonds, 2 C fusion atoms, bicyclic, (2) 6-membered rings> (opt. substd.)
- G3 = bond / heterocycle <containing 1-3 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), mono- or bicyclic> (opt. substd.) / carbocycle <containing 3-7 C, up to 2 double bonds, up to 7-membered monocyclic ring> (opt. substd.) / phenylene / carbocycle <containing 6-10 C, aromatic, bonds all normalized, mono- or bicyclic, (1-2) 6-membered rings only> (opt. substd.) / 12-98 13-169

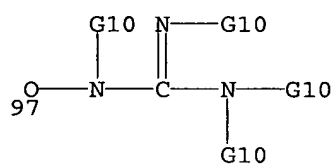
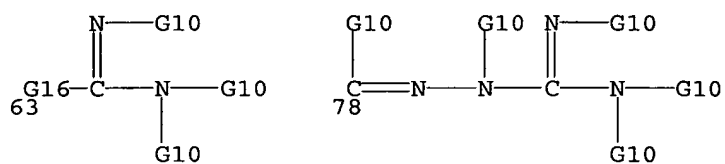
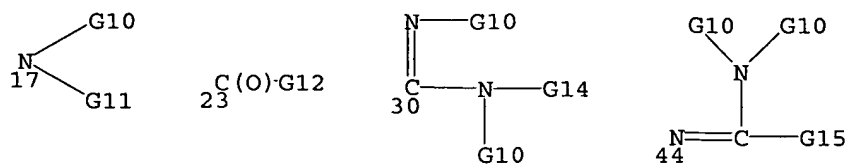


- G5 = heterocycle <containing 1-3 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), mono- or bicyclic> (opt. substd.) / carbocycle <containing 3-7 C, up to 2 double bonds, up to 7-membered monocyclic ring> (opt. substd.) / phenylene / carbocycle <containing 6-10 C, aromatic, bonds all normalized, mono- or bicyclic, (1-2) 6-membered rings only> (opt. substd.)
- G6 = 169 / (Specifically claimed: 170 / 230)

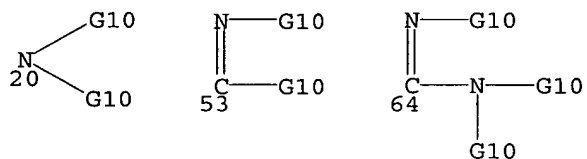


- G7 = alkylene (opt. substd.)
- G8 = (1) CH2 / C(O)

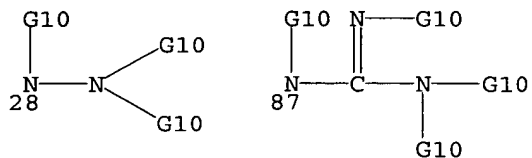
G9 = 17 / 23 / 30 / 44 / 63 / 78 / 97 /  
 heterocycle <containing 1-3 heteroatoms, 1-3 N, 0-1 O,  
 0-1 S (no other heteroatoms), mono- or bicyclic>  
 (opt. substd.)



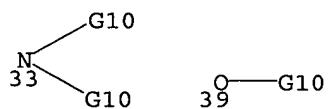
G10 = H / R  
 G11 = H / R / 20 / 53 / 64



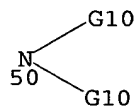
G12 = 28 / 87



G13 = (1) CH2 / C(O)  
 G14 = 33 / 39 / H / R



G15 = H / R / 50

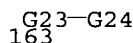
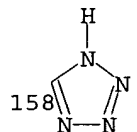
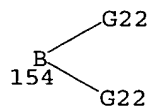
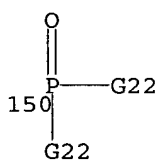
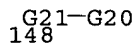
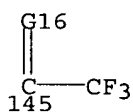
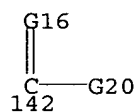


G16 = O / S

G17 = (1) CH2 / C(O)

G18 = (1) CH2 / C(O)

G19 = 142 / 145 / alkylcarbonyl (substd.) / 148 / 150 /  
154 / NO2 / 158 / 163 / (Specifically claimed: CH2CO2H /  
CH2CH2CO2H)



G20 = OH (opt. substd.) / NH2 (opt. substd.)

G21 = S(O) / SO2

G22 = OH (opt. substd.)

G23 = alkylene <containing 1-4 C> /  
alkenylene <containing 2-4 C> /  
alkynylene <containing 2-4 C> / 165

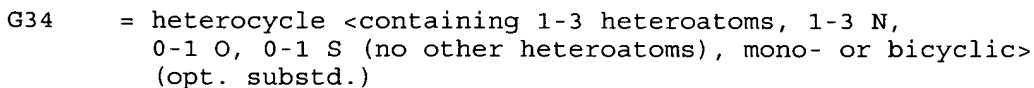
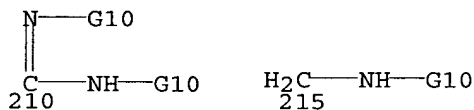
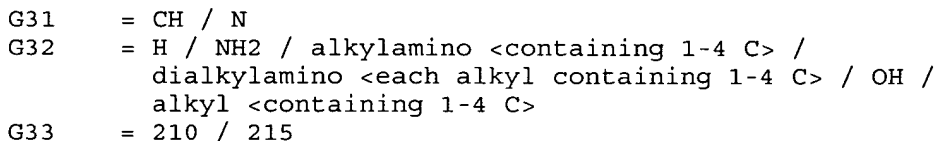
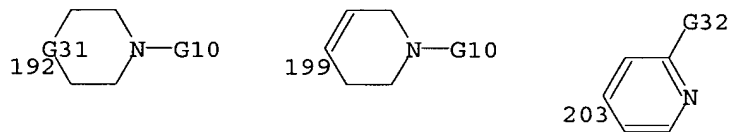
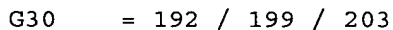
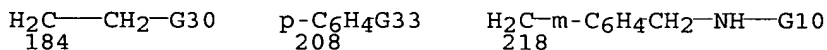
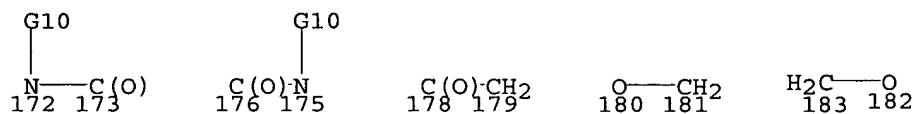
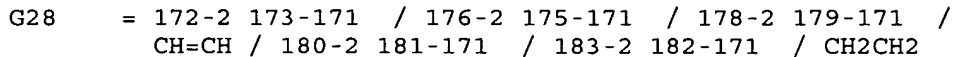
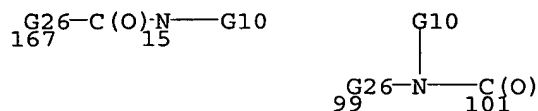
G25=O  
165

G24 = H / R / cycloalkyl <containing 3-6 C>  
(opt. substd.) / heterocycle <containing 1-3 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), mono- or bicyclic>  
(opt. substd.) / Ph (opt. substd.) /  
carbocycle <containing 10 C, aromatic, bonds all normalized,  
bicyclic, (2) 6-membered rings> (opt. substd.)

G25 = carbon chain <containing 1-4 C,  
0 or more double bonds, 0 or more triple bonds>  
(opt. substd.)

G26 = (0-2) CH2

G27 = R / (Specifically claimed: 167-4 15-2 /  
99-4 101-2 )



Derivative: or pharmaceutically acceptable salts  
Patent location: claim 1

L71 ANSWER 125 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 122:55900 MARPAT  
TITLE: Inhibitors of HIV protease useful for the treatment of AIDS.  
INVENTOR(S): Jungheim, Louis Nickolaus; Shepherd, Timothy Alan  
PATENT ASSIGNEE(S): Eli Lilly and Co., USA  
SOURCE: Eur. Pat. Appl., 61 pp.  
CODEN: EPXXDW  
DOCUMENT TYPE: Patent  
LANGUAGE: English

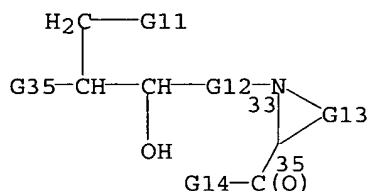
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 604185	A1	19940629	EP 1993-310359	19931220
EP 604185	B1	19990324		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE				
US 5733906	A	19980331	US 1993-134329	19931012
ZA 9309475	A	19950619	ZA 1993-9475	19931217
NO 9304719	A	19940623	NO 1993-4719	19931220
AU 9352528	A1	19940707	AU 1993-52528	19931220
AU 667146	B2	19960307		
HU 69693	A2	19950928	HU 1993-3679	19931220
IL 108092	A1	19980615	IL 1993-108092	19931220
AT 178055	E	19990415	AT 1993-310359	19931220
ES 2132201	T3	19990816	ES 1993-310359	19931220
CA 2112042	AA	19940623	CA 1993-2112042	19931221
FI 9305778	A	19940623	FI 1993-5778	19931221
JP 06271534	A2	19940927	JP 1993-322750	19931221
BR 9305162	A	19941101	BR 1993-5162	19931221
CN 1094399	A	19941102	CN 1993-112962	19931221
CN 1044117	B	19990714		
US 5905077	A	19990518	US 1997-974430	19971119

PRIORITY APPLN. INFO.:

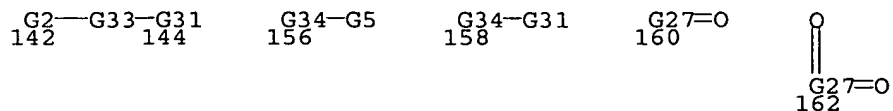
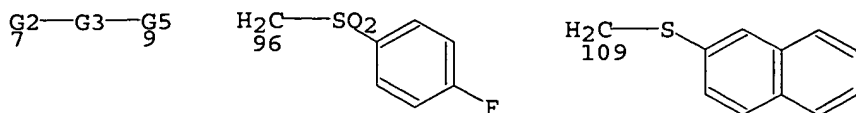
AB Oligopeptide analogs I (R1 = aryl, alkyl, alkylthio, etc.; R2 = amino acid side chain, etc.; ) were disclosed. I are HIV protease inhibitors useful for the treatment of HIV infection and AIDS. Claimed example compound, [2R-(2R\*,3S\*,6S\*,4a'S\*,8a'S\*)]-N-(tert-butyl)-2-[2-hydroxy-3-(phenylmethyl)-4-aza-5-oxo-6-(ethanoylamino)-7-[(phenylmethyl)thio]heptyl]decahydro-3-isoquinolinecarboxamide (II) was prepared

## MSTR 1

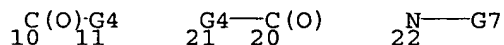


G1 = R <"amino acid side chain"> / 7 / 142 / 156 / 158  
/  
carbocycle <containing 6-10 C, aromatic,  
bonds all normalized, mono- or bicyclic,  
(1-2) 6-membered rings only> (opt. substd. by (1-3) G29) /  
Ph / naphthyl / heterocycle <containing 5 or more atoms,  
1-3 heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms), 1-3 rings>  
(opt. substd. by (1-3) G25) / 160 / 162 /  
alkyl <containing 1-4 C> (substd. by G32) /  
(Specifically claimed: 96 / 109)

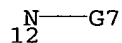




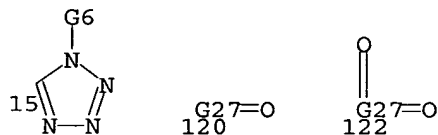
G2 = bond / alkylene <containing 1-2 C>  
 G3 = alkenylene <containing 2-4 C> /  
 alkynylene <containing 2-4 C> / 10-7 11-9 / 21-7 20-9 /  
 NH / 22 / C(O) / O / S / S(O) / SO2



G4 = O / NH / 12

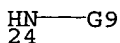


G5 = carbocycle <containing 6-10 C, aromatic,  
 bonds all normalized, mono- or bicyclic,  
 (1-2) 6-membered rings only> (opt. substd. by (1-3) G29) /  
 Ph / naphthyl / heterocycle <containing 5 or more atoms,  
 1-3 heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), 1-3 rings>  
 (opt. substd. by (1-3) G25) / 120 / 122 / tetrazolyl / 15

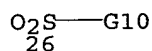


G6 = alkyl <containing 1-4 C> /  
 carbocycle <containing 6-10 C, aromatic,  
 bonds all normalized, mono- or bicyclic,  
 (1-2) 6-membered rings only> (opt. substd. by (1-3) G29) /  
 Ph / naphthyl

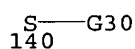
G7 = alkyl <containing 1-4 C>  
 G8 = NH2 / 24



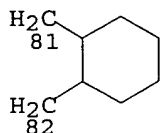
G9 = CONH2 / CHO / alkylcarbonyl <containing 1-5 C> /  
 alkoxy carbonyl <containing 1-4 C> / COCF3 / 26 /  
 (Specifically claimed: COMe)



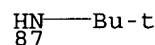
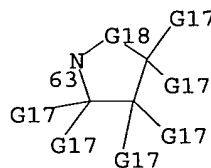
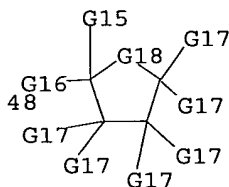
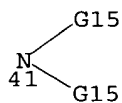
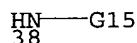
- G10 = alkyl <containing 1-6 C> / NH<sub>2</sub> /  
 alkylamino <containing 1-4 C> / CF<sub>3</sub> /  
 dialkylamino <each alkyl containing 1-4 C> /  
 (Specifically claimed: Me)
- G11 = carbocycle <containing 6-10 C, aromatic,  
 bonds all normalized, mono- or bicyclic,  
 (1-2) 6-membered rings only> (opt. substd. by (1-3) G29) /  
 Ph / naphthyl / cycloalkyl <containing 5-7 C>  
 (opt. substd. by (1-3) G20) / 140 /  
 cycloalkylthio <containing 5-7 C>  
 (opt. substd. by (1-3) G20)



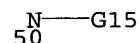
- G12 = CH<sub>2</sub> / C(O)
- G13 = R <"group to form ring"> /  
 (Specifically claimed: 81-33 82-35 / CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>)



- G14 = NH<sub>2</sub> / 38 / 41 / 48 / 63 / (Specifically claimed: 87)

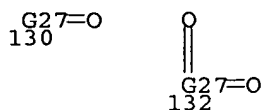


- G15 = alkyl <containing 1-6 C> /  
 alkyl <containing 1-4 C> (substd. by OH)
- G16 = NH / 50

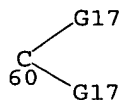


- G17 = H / OH / alkyl <containing 1-6 C> /  
 alkoxy <containing 1-6 C> / NH<sub>2</sub> /  
 alkylamino <containing 1-4 C> /  
 alkyl <containing 1-4 C> (substd. by OH) / CO<sub>2</sub>H /  
 alkoxycarbonyl <containing 1-4 C> / CONH<sub>2</sub> /  
 alkylaminocarbonyl <containing 1-4 C> /  
 carbocycle <containing 6-10 C, aromatic,  
 bonds all normalized, mono- or bicyclic,  
 (1-2) 6-membered rings only> (opt. substd.) /  
 heterocycle <containing 5 or more atoms, 1-3 heteroatoms,

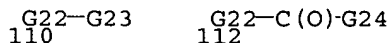
zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), 1-3 rings>  
 (opt. substd.) / 130 / 132



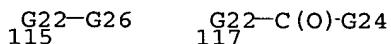
G18 = (1-2) 60



G20 = F / Cl / Br / I / alkyl <containing 1-4 C>  
 (opt. substd. by 1 or more G21) / alkoxy <containing 1-4 C> /  
 CO<sub>2</sub>H / alkoxycarbonyl <containing 1-4 C> / CONH<sub>2</sub> /  
 alkylaminocarbonyl <containing 1-4 C> / NH<sub>2</sub> /  
 alkylamino <containing 1-4 C> /  
 dialkylamino <each alkyl containing 1-4 C> / 110 / 112



G21 = F / Cl / Br / I  
 G22 = alkylene <containing 1-4 C, unbranched>  
 G23 = OH / alkoxy <containing 1-4 C> / NH<sub>2</sub> /  
 alkylamino <containing 1-4 C> /  
 dialkylamino <each alkyl containing 1-4 C>  
 G24 = OH / alkoxy <containing 1-4 C> / NH<sub>2</sub>  
 G25 = F / Cl / Br / I / alkyl <containing 1-4 C>  
 (opt. substd. by 1 or more G21) / alkoxy <containing 1-4 C> /  
 CO<sub>2</sub>H / alkoxycarbonyl <containing 1-4 C> / CONH<sub>2</sub> /  
 alkylaminocarbonyl <containing 1-4 C> / NH<sub>2</sub> /  
 alkylamino <containing 1-4 C> /  
 dialkylamino <each alkyl containing 1-4 C> / 115 / 117



G26 = OH / alkoxy <containing 1-4 C> / NH<sub>2</sub> /  
 alkylamino <containing 1-4 C> / pyridyl /  
 dialkylamino <each alkyl containing 1-4 C>  
 G27 = **heterocycle <containing 5 or more atoms,**  
**1-3 heteroatoms, zero or more N, zero or more O,**  
**zero or more S (no other heteroatoms), 1-3 rings>**  
**(opt. substd.)**  
 G29 = F / Cl / Br / I / alkoxy <containing 1-4 C>  
 (opt. substd. by morpholino) / alkoxy <containing 1-4 C>  
 (substd. by pyridyl) / alkyl <containing 1-4 C>  
 (opt. substd. by 1 or more G21) / CO<sub>2</sub>H /  
 alkoxycarbonyl <containing 1-4 C> / CONH<sub>2</sub> /  
 alkylaminocarbonyl <containing 1-4 C> / NH<sub>2</sub> /  
 alkylamino <containing 1-4 C> /

dialkylamino <each alkyl containing 1-4 C> / 135 / 137

$\text{G22-G23}$   $\text{G22-C(O)-G24}$   
135 137

G30 = carbocycle <containing 6-10 C, aromatic,  
bonds all normalized, mono- or bicyclic,  
(1-2) 6-membered rings only> (opt. substd.) / Ph / naphthyl  
G31 = alkyl <containing 1-4 C> (substd. by G32)  
G32 = carbocycle <containing 6-10 C, aromatic,  
bonds all normalized, mono- or bicyclic,  
(1-2) 6-membered rings only> (opt. substd.) / Ph / naphthyl /  
heterocycle <containing 5 or more atoms, 1-3 heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), 1-3 rings>  
(opt. substd.) / 145 / 147

$\text{G27=O}$   
145  
 $\text{O}$   
 $\parallel$   
 $\text{G27=O}$   
147

G33 = bond / alkenylene <containing 2-4 C> /  
alkynylene <containing 2-4 C> / 150-142 151-144 /  
153-142 152-144 / NH / 154 / C(O) / O / S / S(O) / SO2

$\text{C(O)-G4}$   $\text{G4-C(O)}$   $\text{N-G7}$   
150 151 153 152 154

G34 = alkylene <containing 1-2 C>  
G35 = 4 / NH2

$\text{G8-CH-C(O)-NH}$   
| 4  
G1

Derivative: or pharmaceutically acceptable salts  
Patent location: claim 1  
Note: also incorporates claim 9

L71 ANSWER 126 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
(ALL HITS ARE ITERATION INCOMPLETES)

ACCESSION NUMBER: 120:245602 MARPAT

TITLE: Preparation of 17-ethers and thioethers of  
4-aza-steroids as steroid reductase inhibitors

INVENTOR(S): Witzel, Bruce E.; Tolman, Richard L.; Rasmusson, Gary  
H.; Bakshi, Raman K.; Yang, Shu Shu

PATENT ASSIGNEE(S): Merck and Co., Inc., USA

SOURCE: PCT Int. Appl., 68 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

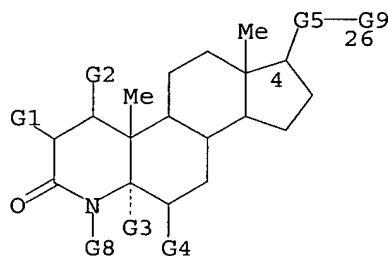
FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

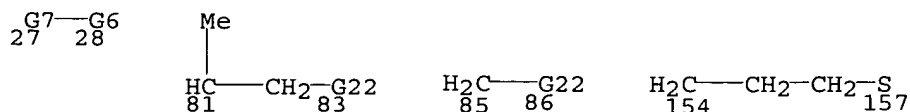
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WO 9323040	A1	19931125	WO 1993-US4746	19930519
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RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9342521	A1	19931213	AU 1993-42521	19930519
AU 668180	B2	19960426		
EP 641204	A1	19950308	EP 1993-911358	19930519
EP 641204	B1	20000816		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE				
JP 07508038	T2	19950907	JP 1993-503831	19930519
AT 195530	E	20000915	AT 1993-911358	19930519
ES 2148229	T3	20001016	ES 1993-911358	19930519
US 5536727	A	19960716	US 1994-338572	19941117
PRIORITY APPLN. INFO.:			US 1992-886031	19920520
			WO 1993-US4746	19930519

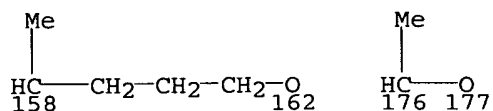
AB Title compds. [I; a, b both = single bonds, and R2 = H; or a = double bond, b = single bond, and R2 = H; or a = single bond, b = double bond, and R2 = null; R1 = H, aryl, (aryl)alkyl; R3 = H, Me, Et, OH, NH2, SMe; R4 = (substituted) alkyl, aryl, heterocyclyl; Z = XR4, (CHR1)nXR4; X = O, S, SO, SO2], were prepared as inhibitors of steroid 5 $\alpha$ -reductase enzymes 1 and 2 (no data). The compds. are useful for the treatment of hyperandrogenic disease conditions and diseases of the skin and scalp. Thus, 17-hydroxymethyl-4-methyl-5 $\alpha$ -4-azaandrostan-3-one and diphenyldiazomethane in CH2Cl2 were treated dropwise with BF3.Et2O to give 17-diphenylmethoxymethyl-4-methyl-5 $\alpha$ -4-azaandrostan-3-one.

## MSTR 1 ITERATION INCOMPLETE

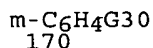
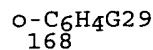
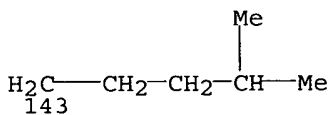
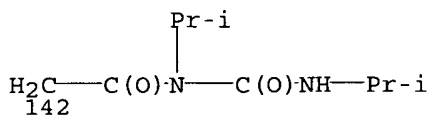
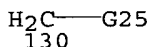
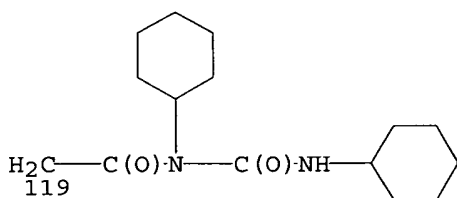
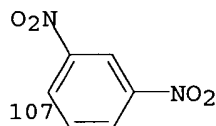
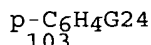
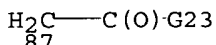
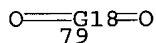
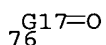


G1 = H  
 G2 = H  
 G3 = H  
 G4 = H  
 G5 = O / S / S(O) / SO2 / 27-4 28-26 /  
 (Specifically claimed: 81-4 83-26 / 85-4 86-26 /  
 154-4 157-26 / 158-4 162-26 / 176-4 177-26 )



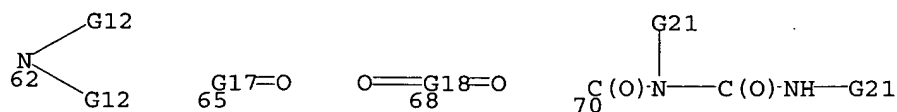
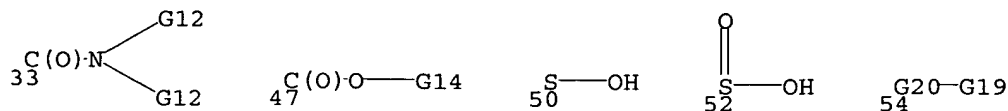


G6 = O / S / S(O) / SO2  
 G7 = alkylene <containing 1 or more C>  
 (opt. substd. by 1 or more G11)  
 G8 = H / Me / Et / OH / NH2 / SMe  
 G9 = alkyl <containing 1-20 C>  
 (opt. substd. by 1 or more G10) / Ph (opt. substd.) /  
 naphthyl (opt. substd.) / heterocycle <containing 1-3  
 heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms),  
 5- to 7-membered monocyclic ring> (opt. substd.) / 76 / 79 /  
 heterocycle <containing 1-3 heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 6 or more C, aromatic, 6 or more normalized bonds, bicyclic,  
 0 or more 5-membered, 1 or more 6-membered,  
 0 or more 7-membered rings only> (opt. substd.) /  
 cycloalkyl <containing 3-10 C> (opt. substd.) /  
 (Specifically claimed: Me / 87 / Et / CHPh2 / Pr-i / 103 /  
 107 / 119 / 3-pyridyl / 130 / 142 / 143 / hexyl / Pr-n /  
 undecyl / CH2CH=CH2 / CH2CH2CHMe2 / CH2C(Me)=CH2 / 168 / 170)



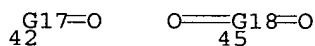
G10 = OH / F / Cl / Br / I / alkoxy <containing 1-8 C> /  
 alkenyl <containing 2-10 C> / 33 / 47 / SH / 50 / 52 / 54 /  
 62 / Ph (opt. substd.) / naphthyl (opt. substd.) /  
 heterocycle <containing 1-3 heteroatoms, zero or more N,

zero or more O, zero or more S (no other heteroatoms),  
 5- to 7-membered monocyclic ring> (opt. substd.) / 65 / 68 /  
 heterocycle <containing 1-3 heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 6 or more C, aromatic, 6 or more normalized bonds, bicyclic,  
 0 or more 5-membered, 1 or more 6-membered,  
 0 or more 7-membered rings only> (opt. substd.) /  
 cycloalkyl <containing 3-10 C> (opt. substd.) / 70

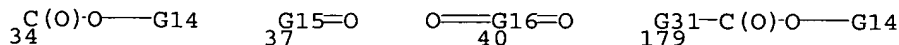


G11 = Ph / naphthyl

G12 = H / alkyl <containing 1-8 C>  
 (opt. substd. by 1 or more G13) / Ph (opt. substd.) /  
 naphthyl (opt. substd.) / heterocycle <containing 1-3  
 heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms),  
 5- to 7-membered monocyclic ring> (opt. substd.) / 42 / 45 /  
 heterocycle <containing 1-3 heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 6 or more C, aromatic, 6 or more normalized bonds, bicyclic,  
 0 or more 5-membered, 1 or more 6-membered,  
 0 or more 7-membered rings only> (opt. substd.)



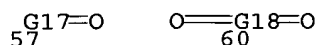
G13 = OH / alkoxy <containing 1-3 C> / CN / 34 / 179 /  
 NO2 / F / Cl / Br / I / NH2 / alkylamino <containing 1-4 C> /  
 dialkylamino <each alkyl containing 1-4 C> /  
 Ph (opt. substd.) / naphthyl (opt. substd.) /  
 heterocycle <containing 1-3 heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 5- to 7-membered monocyclic ring> / 37 / 40 /  
 heterocycle <containing 1-3 heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 6 or more C, aromatic, 6 or more normalized bonds, bicyclic,  
 0 or more 5-membered, 1 or more 6-membered,  
 0 or more 7-membered rings only>



G14 = H / alkyl <containing 1-8 C> (opt. substd.) /  
 Ph (opt. substd.) / naphthyl (opt. substd.)

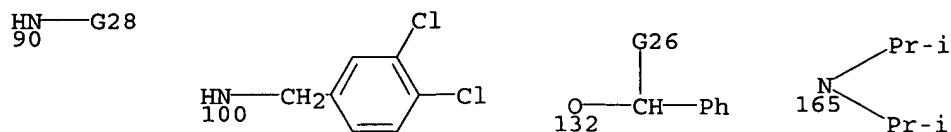
G15 = heterocycle <containing 1-3 heteroatoms,  
 zero or more N, zero or more O,

- zero or more S (no other heteroatoms),  
 5- to 7-membered monocyclic ring> /  
 heterocycle <containing 1-3 heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 6 or more C, aromatic, 6 or more normalized bonds, bicyclic,  
 0 or more 5-membered, 1 or more 6-membered,  
 0 or more 7-membered rings only>
- G16 = heterocycle <containing 1-3 heteroatoms,  
 zero or more N, zero or more O,  
 1 or more S (no other heteroatoms),  
 attached through 1 or more S, 5- to 7-membered monocyclic  
 ring> / heterocycle <containing 1-3 heteroatoms,  
 zero or more N, zero or more O,  
 1 or more S (no other heteroatoms), 6 or more C,  
 attached through 1 or more S, aromatic,  
 6 or more normalized bonds, bicyclic, 0 or more 5-membered,  
 1 or more 6-membered, 0 or more 7-membered rings only>
- G17 = heterocycle <containing 1-3 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms),  
 5- to 7-membered monocyclic ring> (opt. substd.) /  
 heterocycle <containing 1-3 heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 6 or more C, aromatic, 6 or more normalized bonds, bicyclic,  
 0 or more 5-membered, 1 or more 6-membered,  
 0 or more 7-membered rings only> (opt. substd.)
- G18 = heterocycle <containing 1-3 heteroatoms,  
 zero or more N, zero or more O,  
 1 or more S (no other heteroatoms),  
 attached through 1 or more S, 5- to 7-membered monocyclic  
 ring> (opt. substd.) / heterocycle <containing 1-3  
 heteroatoms, zero or more N, zero or more O,  
 1 or more S (no other heteroatoms), 6 or more C,  
 attached through 1 or more S, aromatic,  
 6 or more normalized bonds, bicyclic, 0 or more 5-membered,  
 1 or more 6-membered, 0 or more 7-membered rings only>  
 (opt. substd.)
- G19 = alkyl <containing 1-8 C>  
 (opt. substd. by 1 or more G13) / Ph (opt. substd.) /  
 naphthyl (opt. substd.) / heterocycle <containing 1-3  
 heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms),  
 5- to 7-membered monocyclic ring> (opt. substd.) / 57 / 60 /  
 heterocycle <containing 1-3 heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 6 or more C, aromatic, 6 or more normalized bonds, bicyclic,  
 0 or more 5-membered, 1 or more 6-membered,  
 0 or more 7-membered rings only> (opt. substd.)

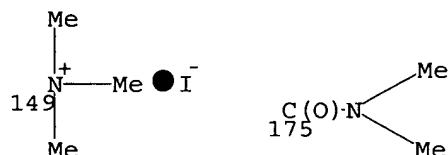


- G20 = S / S(O) / SO2  
 G21 = H / alkyl <containing 1-8 C> / CH2Ph / cyclohexyl  
 G22 = O / S  
 G23 = 132 / 90 / OH / OEt / 100 / NHPh / NH2 / 165





G24 = Ph / NO<sub>2</sub> / NH<sub>2</sub> / NHCOMe / CN / CONH<sub>2</sub> / NMe<sub>2</sub> / 149 /  
OMe / 175



G25 = 2-pyridyl / Ph  
G26 = H / Ph  
G27 = COMe / CH(OH)Me / Bu-t  
G28 = 91 / 1-adamantyl / Bu-i / CH<sub>2</sub>CH<sub>2</sub>OH

p-C<sub>6</sub>H<sub>4</sub>G27  
91

G29 = CN / NO<sub>2</sub> / CONH<sub>2</sub>  
G30 = CN / CONH<sub>2</sub>  
G31 = alkylene <containing 1-8 C>  
G1 +G2 = bond  
G3 +G4 = bond

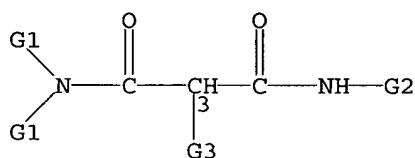
Derivative: or pharmaceutically acceptable salts or esters  
Patent location: claim 1  
Note: substitution is restricted

L71 ANSWER 127 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 119:213897 MARPAT  
TITLE: Silver halide color photographic material  
INVENTOR(S): Mihayashi, Keiji; Saito, Naoki  
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
SOURCE: Eur. Pat. Appl., 116 pp.  
CODEN: EPXXDW  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

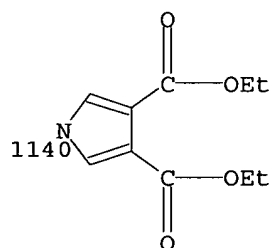
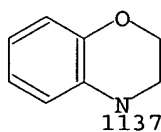
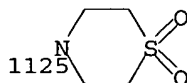
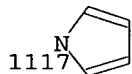
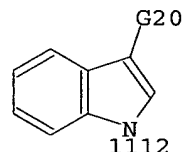
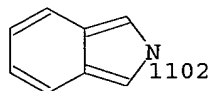
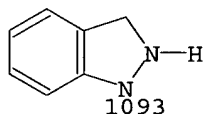
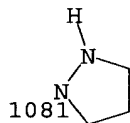
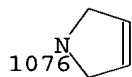
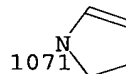
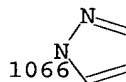
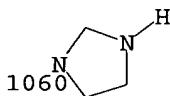
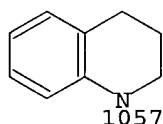
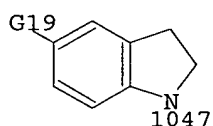
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JP 04274424	A2	19920930	JP 1991-57697	19910301
JP 2651755	B2	19970910		
US 5300412	A	19940405	US 1992-843161	19920228
PRIORITY APPLN. INFO.:			JP 1991-57697	19910301

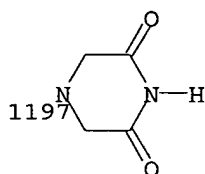
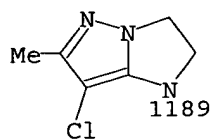
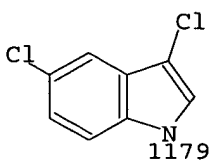
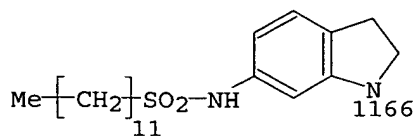
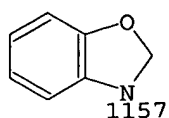
AB An Ag halide color photog. material producing color images having

excellent sharpness and fastness comprises  $\geq 1$  photosensitive Ag halide layer or nonphotosensitive layer containing a yellow coupler represented by the formula  $R_1R_2NCOCH(R_3)CONHR_4$  or I ( $R_1, R_2$  = alkyl, aryl, or heterocyclyl;  $R_3$  = a group capable of being released upon reaction with an oxidized developing agent;  $R_4$  = aryl or heterocyclyl; Z = a group of atoms capable of forming a N-containing heterocyclic group with the adjacent N atom) and a cyan coupler which is a phenolic compound having a phenylureido group at the 2-position and a carbonamido group at the 5-position or a naphtholic compound having an amino group at the 5-position.

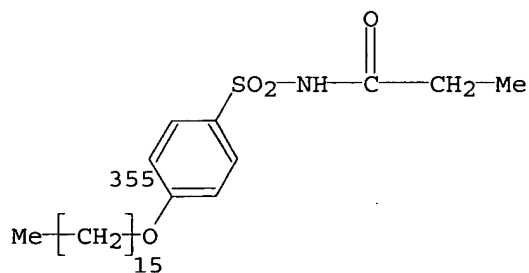
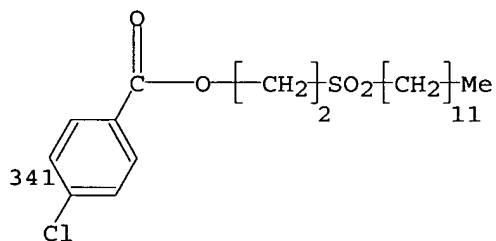
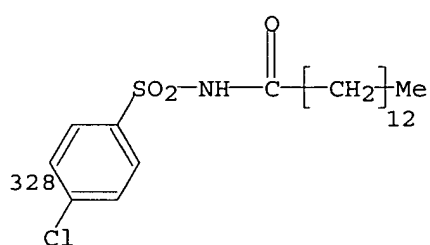
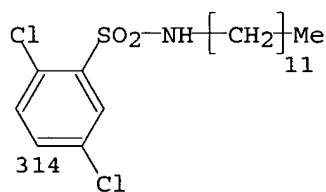
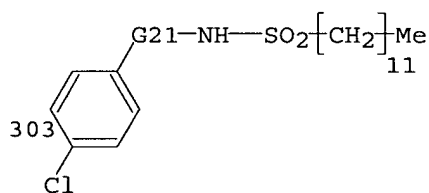
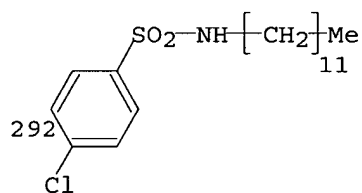
**MSTR 2B**

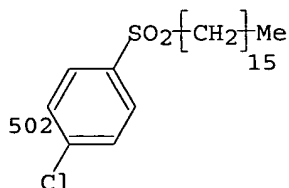
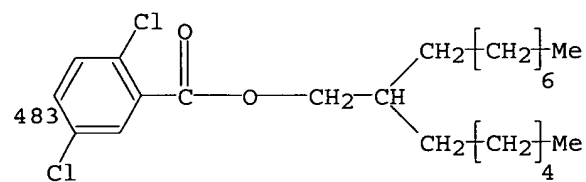
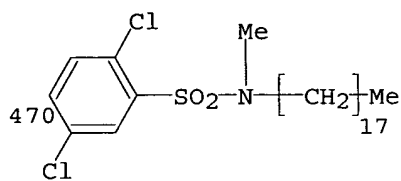
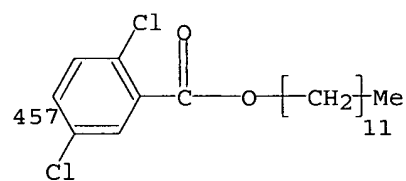
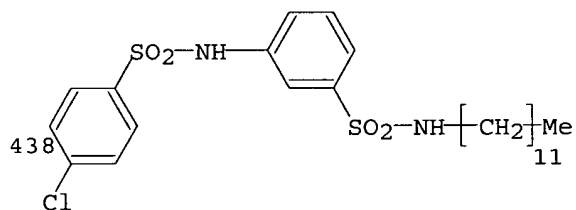
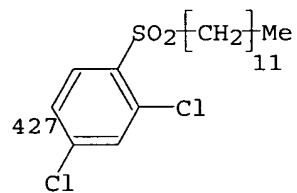
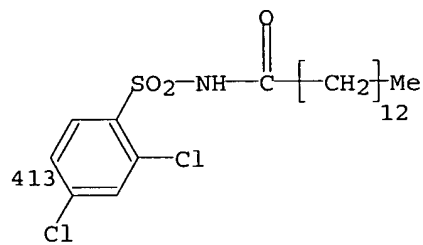
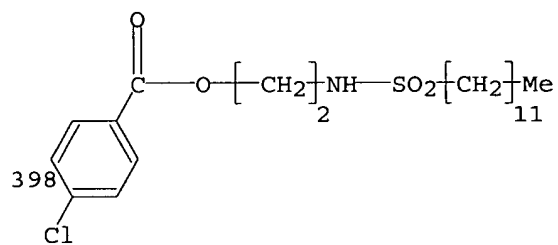
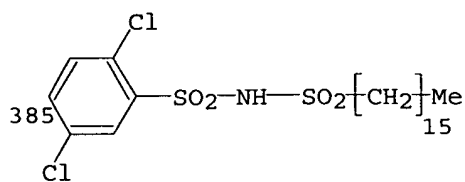
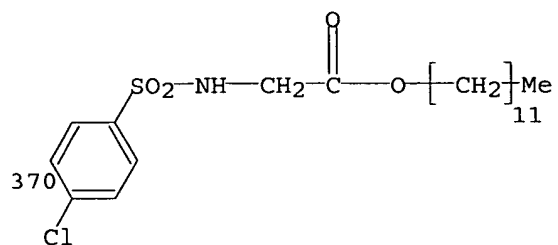
G1 = heterocycle <containing 1 or more heteroatoms, 1 or more N, attached through 1 or more N> (opt. substd. by 1 or more G4) / (Examples: pyrrolidino / piperidino / morpholino / piperazino / 1047 / 1057 / 1060 / 1066 / 1071 / 1076 / 1081 / 1093 / 1102 / 1112 / 1117 / 1125 / 1137 / 1140 / 1157 / 1166 / 1179 / 1189 / 1197)

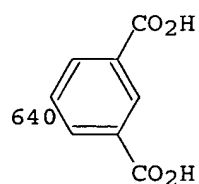


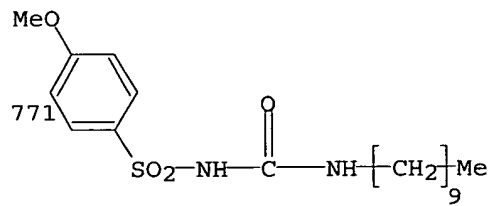
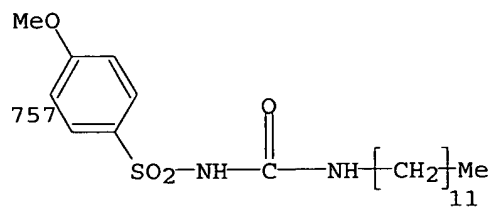
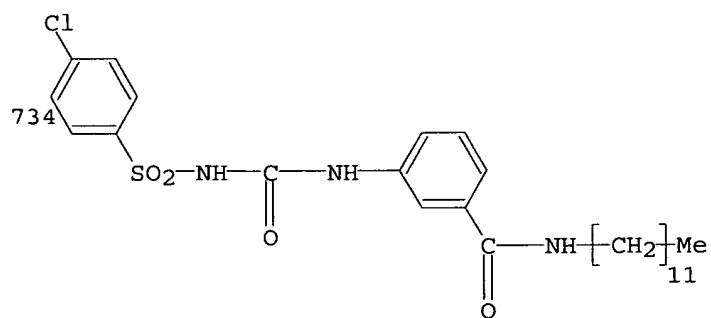
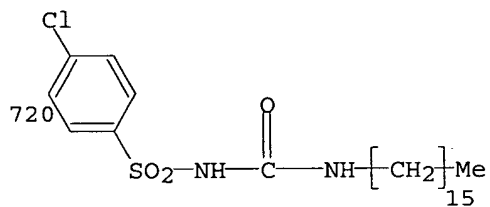
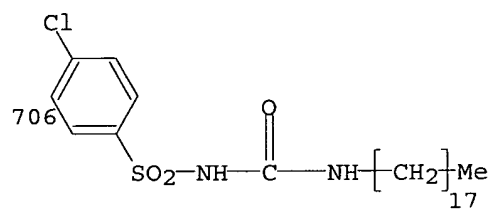
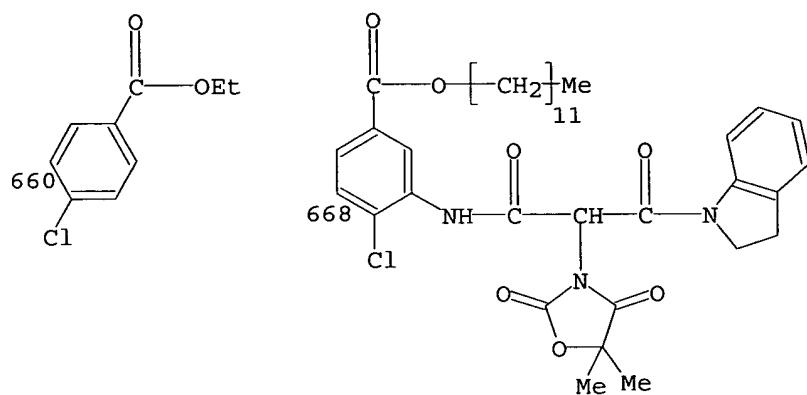
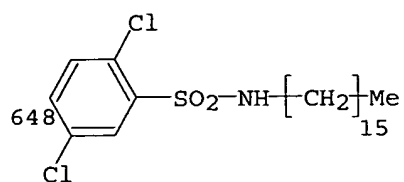


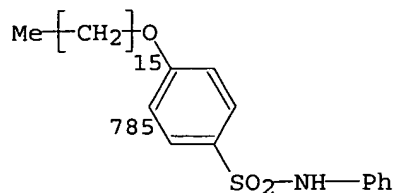
G2 = aryl (opt. substd. by 1 or more G4) /  
 heterocycle (opt. substd. by 1 or more G4) /  
 (Specifically claimed: Ph (substd.)) /  
 (Examples: naphthyl (opt. substd.)) / 292 / 303 / 314 / 328 /  
 341 / 355 / 370 / 385 / 398 / 413 / 427 / 438 / 457 / 470 /  
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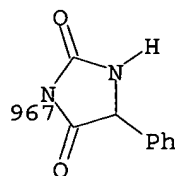
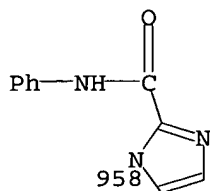
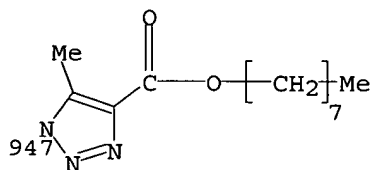
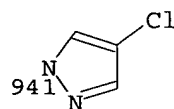
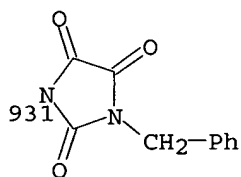
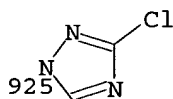
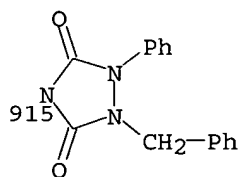
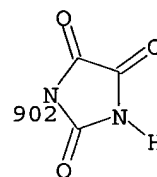
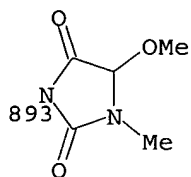
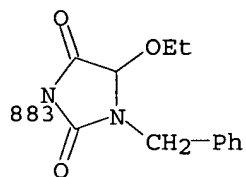
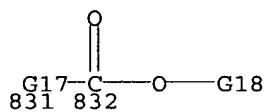
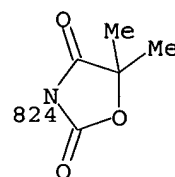
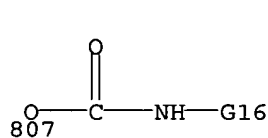
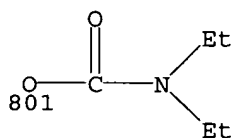
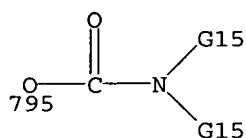


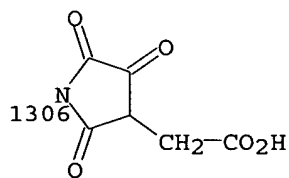
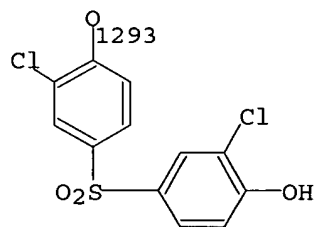
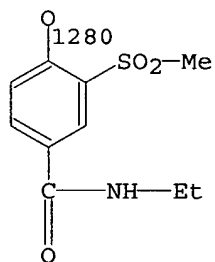
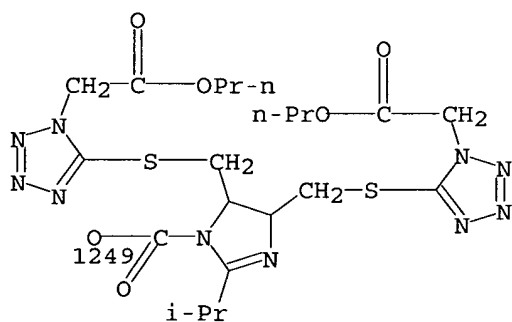
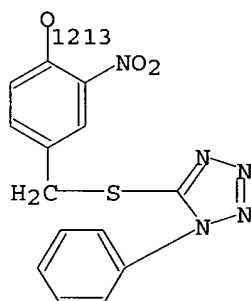
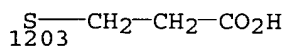
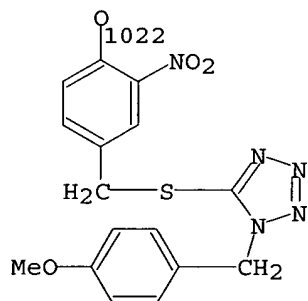
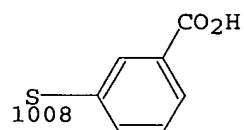
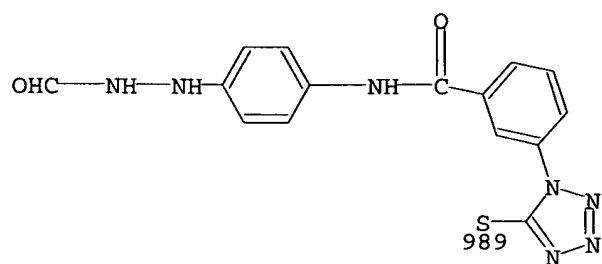
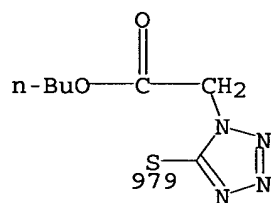




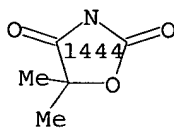
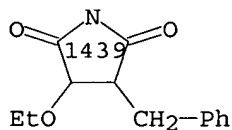
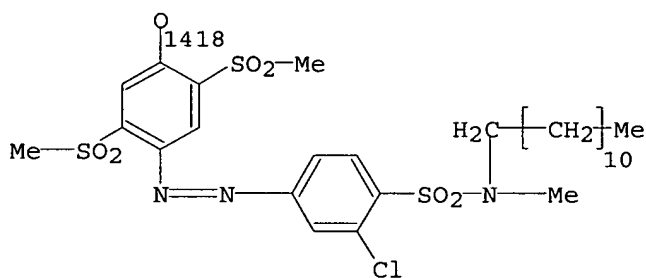
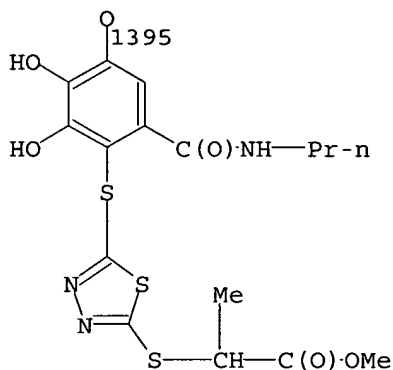
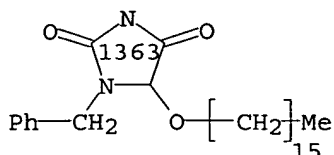
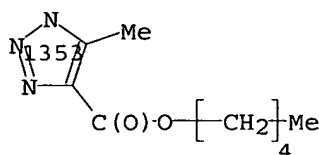
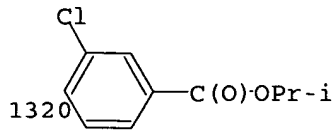
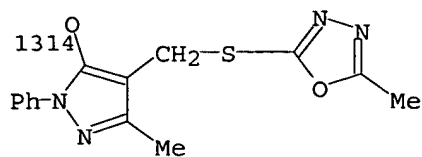


G3 = R <"group capable of being released by reaction with a coupler or the oxidation product of a developing agent"> / (Examples: 795 / 801 / 807 / 824 / 831 / 883 / 893 / 902 / 915 / 925 / 931 / 941 / 947 / 958 / 967 / 979 / 989 / 1008 / 1022 / 1203 / 1213 / 1314 / 1249 / 1280 / 1293 / 1306 / 1320 / 1353 / 1363 / 1395 / 1418 / 1439 / 1444)

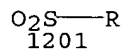
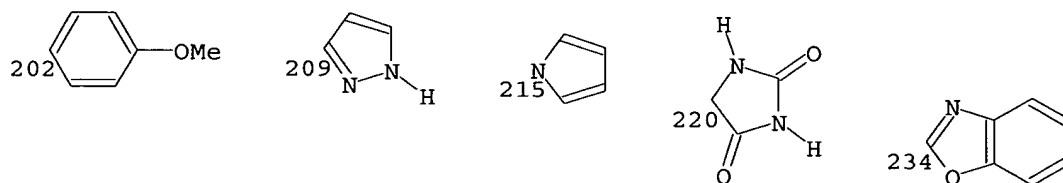
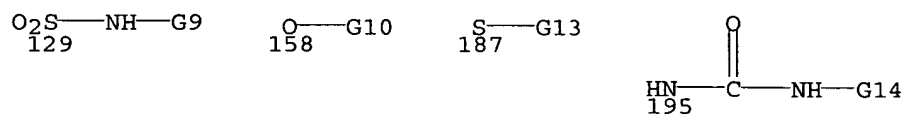
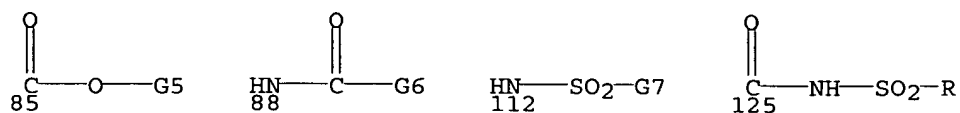




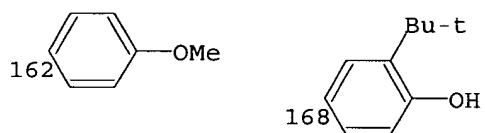




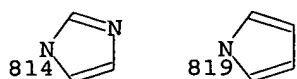
G4 = R / (Examples: halo / 85 / acylamino / 88 / 112 /  
CONH2 (opt. substd.) / 125 / SO2NH2 (opt. substd.) / 129 /  
158 / 1201 / CN / NO2 / CO2H / OH / SO3H / 187 / 195 /  
aryl <containing 6-20 C> (opt. substd.) / Ph / naphthyl /  
202 / heterocycle <containing 1 or more heteroatoms,  
zero or more N, zero or more O, zero or more S, no OTHER,  
1-20 C, 0 or more 3- or more membered,  
0 or more up to 12-membered rings> (opt. substd.) /  
2-pyridyl / 209 / 215 / 220 / 234 / morpholino / indolyl /  
carbon chain <containing 1-30 C> (opt. substd.) /  
carbocycle <containing 3-30 C, non-aromatic> (opt. substd.) /  
acyl / COMe / C(=O)Ph)



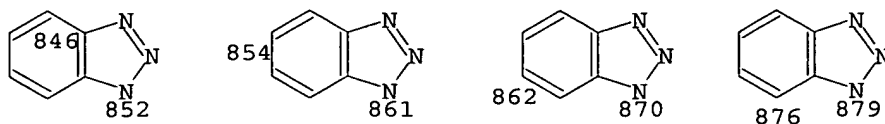
- G5 = alkyl <containing 1-29 C> (opt. substd.) /  
 aryl <containing 6-20 C> (opt. substd.) / Ph  
 G6 = Ph / alkoxy <containing 1-30 C> (opt. substd.)  
 G7 = R / Ph / NH<sub>2</sub> (opt. substd.) / NHPH  
 G9 = acyl  
 G10 = alkyl <containing 1-30 C> (opt. substd.) /  
 aryl <containing 6-20 C> (opt. substd.) / Ph / 162 / 168 /  
 naphthyl / acyl



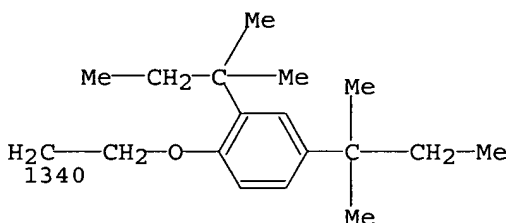
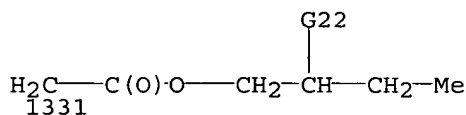
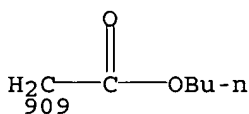
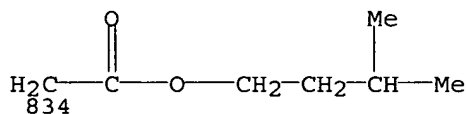
- G13 = alkyl <containing 1-30 C> (opt. substd.) /  
 aryl <containing 6-20 C> (opt. substd.) / Ph / naphthyl  
 G14 = R / Ph  
 G15 = carbon chain <containing 1-30 C>  
 (opt. substd. by 1 or more G4) /  
 carbocycle <containing 3-30 C, non-aromatic>  
 (opt. substd. by 1 or more G4) /  
 aryl <containing 6-30 C> (opt. substd. by 1 or more G4) /  
 heterocycle <containing 1-30 C>  
 (opt. substd. by 1 or more G4)  
 G16 = Ph / 814 / 819



G17 = 852-3 846-832 / 861-3 854-832 / 870-3 862-832 /  
879-3 876-832



G18 = 834 / Ph / 909 / 1331 / 1340



G19 = H / Cl / NO2

G20 = H / Me

G21 = bond / SO2

G22 = Me / H

Patent location:

claim 1

L71 ANSWER 128 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 119:203856 MARPAT

TITLE: Retroviral protease inhibitors

INVENTOR(S): Bertenshaw, Deborah Elizabeth; Freskos, John Nicholas;  
Getman, Daniel Paul; Heintz, Robert Martin; Lin, Ko  
Chung; Rogier, Donald Joseph, Jr.; Talley, John  
Jeffrey

PATENT ASSIGNEE(S): Monsanto Co., USA

SOURCE: PCT Int. Appl., 199 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 10

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9208688	A1	19920529	WO 1991-US8617	19911118

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 RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FR, GA, GB, GN,  
 GR, IT, LU, ML, MR, NL, SE, SN, TD, TG

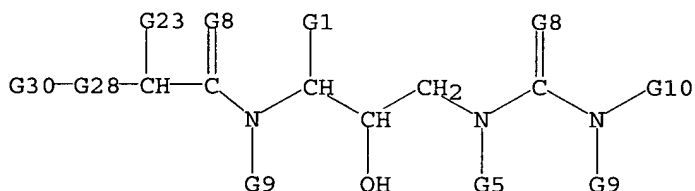
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ZA 9109162	A	19930819	ZA 1991-9162	19911119
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US 5510378	A	19960423	US 1995-449974	19950525
US 5510487	A	19960423	US 1995-452603	19950525
US 5602175	A	19970211	US 1995-450606	19950525
US 5648511	A	19970715	US 1995-452187	19950525
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US 5708004	A	19980113	US 1995-450605	19950525
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GR 3035176 T3 20010430  
PRIORITY APPLN. INFO.:

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WO 1991-US8617 19911118  
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US 1992-886663 19920520  
US 1993-148817 19931108  
US 1993-152934 19931115  
US 1993-156498 19931123  
US 1995-452187 19950525

AB Urea-containing hydroxyethylamine protease inhibitor compds.  
RR1NCHR2CH(OH)CH2NR3C(Z)NR4R5 (R = H, acyl; R1, R4 = H, alkyl; R2 = alkyl, aryl, cycloalkyl, cycloalkylalkyl, aralkyl; R3 = alkyl, alkenyl, hydroxyalkyl, cycloalkyl, cycloalkylalkyl, heterocycloalkyl, heterocycloalkylalkyl, aryl, aralkyl, heteroaralkyl; R5 = alkyl; Z = O, S) were prepared, particularly as HIV inhibitors. Thus, 2,2-dimethyl-3-(4-pyridyl)propionic acid underwent Curtius rearrangement with diphenylphosphoryl azide and Et3N in toluene and the product was treated with 3(S)-[[N-(2-quinolinylcarbonyl)-L-asparaginyl]amino]-2(R)-hydroxy-4-phenyl-N-[(4-fluorophenyl)methyl]butylamine [2-C9H6NCO-Asn-NHCH(CH2Ph)CH(OH)CH2NRCH2C6H4F-p (I, 2-C9H6N = 2-quinolinyl, R = H) to afford I [R = [[1,1-dimethyl-2-(4-pyridyl)ethyl]amino]carbonyl]. This compound showed HIV protease inhibitory activity as follows: IC50 = 4 nM and ED50 = 37 nM.

## MSTR 1C

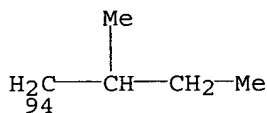
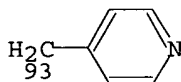
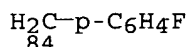
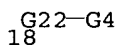
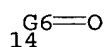


G1 = alkyl <containing 1-10 C>  
(opt. substd. by 1 or more G2) /  
carbocycle <containing 6-10 C, aromatic,  
bonds all normalized, mono- or bicyclic,  
(1-2) 6-membered rings only> (opt. substd.) /  
cycloalkyl <containing 3-8 C> (opt. substd.) / 11 /  
(Specifically claimed: CH2Ph)

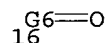
G3—G4  
11

G2 = cycloalkyl <containing 3-8 C> (opt. substd.) / R  
G3 = alkylene <containing 1-10 C> (opt. substd.)  
G4 = carbocycle <containing 6-10 C, aromatic,  
bonds all normalized, mono- or bicyclic,

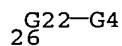
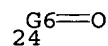
G5 = (1-2) 6-membered rings only> (opt. substd.)  
 = alkyl <containing 1-10 C> (opt. substd. by OH) /  
 alkenyl / cycloalkyl <containing 3-8 C> /  
 alkyl <containing 1-10 C> (substd. by cycloalkyl <containing  
 3-8 C>) / heterocycle <containing 1 or more heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), 1-3 rings>  
 (opt. substd.) / 14 / alkyl <containing 1-10 C>  
 (substd. by G7) / carbocycle <containing 6-10 C, aromatic,  
 bonds all normalized, mono- or bicyclic,  
 (1-2) 6-membered rings only> (opt. substd.) / 18 /  
 alkyl <containing 1-10 C> (substd. by heteroaryl <1-3 rings>  
 (opt. substd.)) / (Specifically claimed: CH<sub>2</sub>CH<sub>2</sub>CHMe<sub>2</sub> / 84 /  
 Bu-i / 93 / 94)



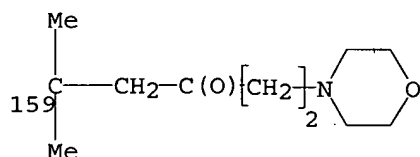
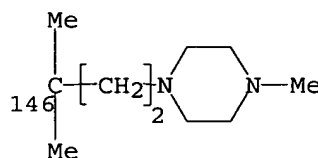
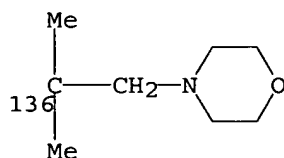
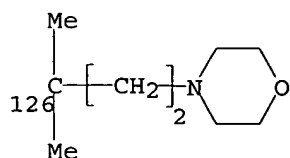
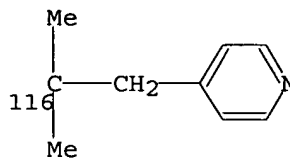
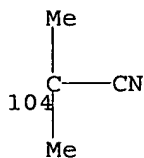
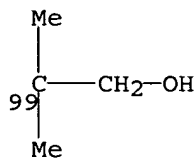
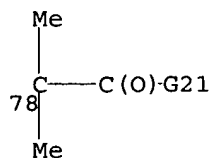
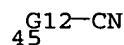
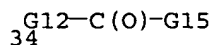
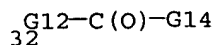
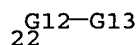
G6 = heterocycle <containing 1 or more heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), 1-3 rings>  
 (opt. substd.)  
 G7 = heterocycle <containing 1 or more heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), 1-3 rings>  
 (opt. substd.) / 16



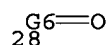
G8 = O / S  
 G9 = H / alkyl <containing 1-10 C> (opt. substd. by OH) /  
 alkenyl / cycloalkyl <containing 3-8 C> /  
 alkyl <containing 1-10 C> (substd. by cycloalkyl <containing  
 3-8 C>) / heterocycle <containing 1 or more heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), 1-3 rings>  
 (opt. substd.) / 24 / alkyl <containing 1-10 C>  
 (substd. by G7) / carbocycle <containing 6-10 C, aromatic,  
 bonds all normalized, mono- or bicyclic,  
 (1-2) 6-membered rings only> (opt. substd.) / 26 /  
 alkyl <containing 1-10 C> (substd. by heteroaryl <1-3 rings>  
 (opt. substd.))



G10 = 45 / 22 / 32 / 34 / (Specifically claimed: 78 / 99 /  
 104 / 116 / 126 / 136 / 146 / 159)

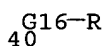
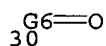


G11 = OH / alkenyl / cycloalkyl <containing 3-8 C> / heterocycle <containing 1 or more heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), 1-3 rings> (opt. substd.) / 28 / carbocycle <containing 6-10 C, aromatic, bonds all normalized, mono- or bicyclic, (1-2) 6-membered rings only> (opt. substd.) / heteroaryl <1-3 rings> (opt. substd.) / CONH2



G12 = alkylene (opt. substd. by (1-2) G11)

G13 = OH / H / alkoxy <containing 1-10 C> / cycloalkyl <containing 3-8 C> / carbocycle <containing 6-10 C, aromatic, bonds all normalized, mono- or bicyclic, (1-2) 6-membered rings only> (opt. substd.) / heterocycle <containing 1 or more heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), 1-3 rings> (opt. substd.) / 30 / heteroaryl <1-3 rings> (opt. substd.) / 40 / NH2 (opt. substd.)



G14 = alkyl <containing 1-10 C> (opt. substd. by OH) /  
 alkenyl / alkyl <containing 1-10 C>  
 (substd. by cycloalkyl <containing 3-8 C>) /  
 alkyl <containing 1-10 C> (substd. by G7) / 36 /  
 alkyl <containing 1-10 C> (substd. by heteroaryl <1-3 rings>  
 (opt. substd.))

~~G22-G4~~  
 36

G15 = H / cycloalkyl <containing 3-8 C> /  
 heterocycle <containing 1 or more heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), 1-3 rings>  
 (opt. substd.) / 38 / carbocycle <containing 6-10 C,  
 aromatic, bonds all normalized, mono- or bicyclic,  
 (1-2) 6-membered rings only> (opt. substd.) /  
 OH (opt. substd.) / NH2 (opt. substd.) /  
 heteroaryl <containing 1 or more heteroatoms, 1 or more N,  
 attached through 1 or more N, 1-3 rings> (opt. substd.)

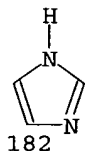
~~G6=O~~  
 38

G16 = SO2 / S / O  
 G21 = OMe / OBU-t / OEt / OPr-i / OCH2Ph / OH / H  
 G22 = alkylene <containing 1-10 C>  
 G23 = 168 / 175 / alkyl <containing 1-10 C> /  
 cycloalkyl <containing 3-8 C> / 177 / 171 / H / Bu-s / Bu-i /  
 Bu-t / 180 / CH2CH2CH2NH2 / CH(OH)Me / Bu-n / Pr-i / CH2CN

$\text{H}_2\text{C}-\text{SO}_2-\text{NH}_2$      $\text{H}_2\text{C}-\text{CH}_2-\text{G24}-\text{Me}$      $\text{C}(\text{O})-\text{G25}$      $\text{H}_2\text{C}-\text{C}(\text{O})-\text{G26}$   
 168                      171                      175                      177

$\text{H}_2\text{C}-\text{G27}$   
 180

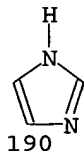
G24 = S / S(O) / SO2  
 G25 = OMe / **NH2**  
 G26 = NH2 / OH  
 G27 = Ph / H / 182 / OH



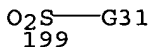
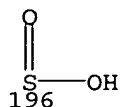
G28 = alkylene (opt. substd. by G29)  
 G29 = SO2NH2 / 188 / cycloalkyl <containing 3-8 C> /  
 CO2H / SMe / S(O)Me / SO2Me / Ph / 190 / OH / NH2 / CN



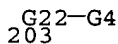
C(O)-G25  
188



G30 = 196 / 199



G31 = alkyl <containing 1-10 C> (opt. substd. by OH) /  
alkenyl / cycloalkyl <containing 3-8 C> /  
alkyl <containing 1-10 C> (substd. by cycloalkyl <containing  
3-8 C>) / heterocycle <containing 1 or more heteroatoms,  
zero or more N, zero or more O,  
zero or more S (no other heteroatoms), 1-3 rings>  
(opt. substd.) / 201 / alkyl <containing 1-10 C>  
(substd. by G7) / carbocycle <containing 6-10 C, aromatic,  
bonds all normalized, mono- or bicyclic,  
(1-2) 6-membered rings only> (opt. substd.) / 203 /  
alkyl <containing 1-10 C> (substd. by heteroaryl <1-3 rings>  
(opt. substd.))



Patent location: claim 1

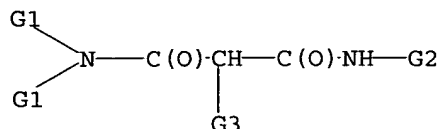
L71 ANSWER 129 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 118:263762 MARPAT  
TITLE: Color photographic material with improved dye image  
stability and high color density  
INVENTOR(S): Obayashi, Keiji; Kamio, Takayoshi  
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 68 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04277740	A2	19921002	JP 1991-63679	19910306
PRIORITY APPLN. INFO.:			JP 1991-63679	19910306

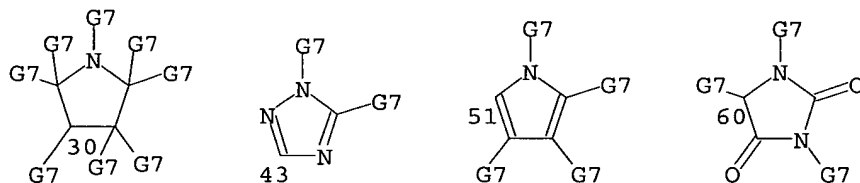
AB The title color photog. material contains yellow couplers X1X2NCOCHZCONHY and(or) I [X1,2 = alkyl, aryl, heterocyclyl; X3 = organic residue to complete a N-containing heterocyclyl; Y = aryl, heterocyclyl; Z = group releasable on reaction with oxidized developer] in ≥1 of the photog. layers, and contains a cyan coupler II [M, Q = benzene ring substituent ring; L = H, halo, aliphatic oxy; m = 0-5; n = 0-4; X = group releasable on reaction with oxidized aromatic amine developer; M, Q, L, or X can be a bi-, tri-, or

tetra-valent linking group to form a di-, tri-, or tetramer].

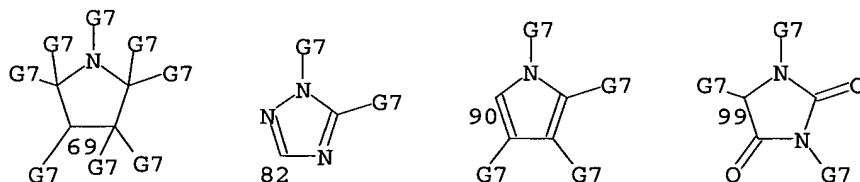
# MSTR 1



G1 = alkyl <containing 1-20 C>  
 (opt. substd. by 1 or more G9) /  
 cycloalkyl <containing 3-20 C> (opt. substd. by 1 or more G9)  
 / alkenyl <containing 2-20 C> (opt. substd. by 1 or more G9)  
 / alkynyl <containing 2-20 C> (opt. substd. by 1 or more G9)  
 / aryl <containing 6-20 C> (opt. substd. by 1 or more G9) /  
**heterocycle <containing 1 or more heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), mono- or bicyclic>**  
 (opt. substd. by 1 or more G9) /  
 (Examples: Ph (opt. substd.) / naphthyl (opt. substd.) / 30 /  
 43 / 2-pyridyl (opt. substd.) /  
 4-pyrimidinyl (opt. substd.) / pyrazolyl (opt. substd.) /  
 51 / 60)

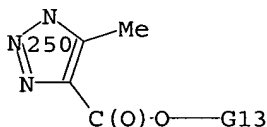
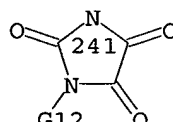
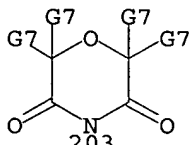
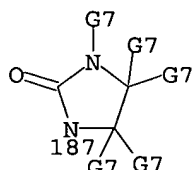
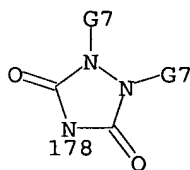
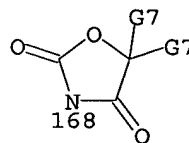
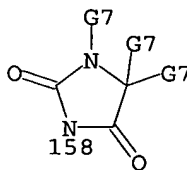
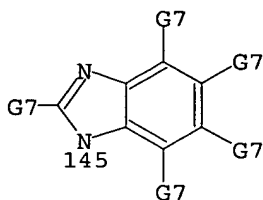
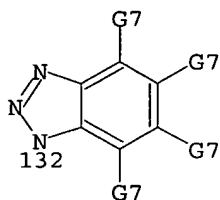
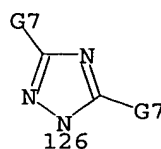
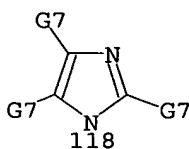
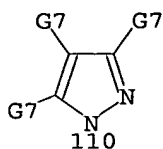
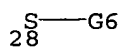
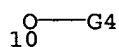


G2 = aryl <containing 6-20 C>  
 (opt. substd. by 1 or more G9) /  
**heterocycle <containing 1 or more heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), mono- or bicyclic>**  
 (opt. substd. by 1 or more G9) /  
 (Examples: Ph (opt. substd.) / naphthyl (opt. substd.) / 69 /  
 82 / 2-pyridyl (opt. substd.) /  
 4-pyrimidinyl (opt. substd.) / pyrazolyl (opt. substd.) /  
 90 / 99)

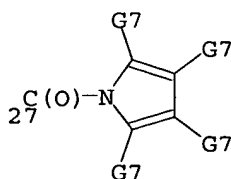
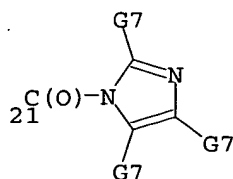
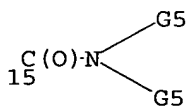


G3 = R <"leaving group"> / (Examples: heterocycle  
 <containing 1 or more heteroatoms, 1 or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 attached through 1 or more N, mono- or bicyclic>

(opt. substd. by 1 or more G9) / 10 / 28 / halo / 110 / 118 /  
126 / 132 / 145 / 158 / 168 / 178 / 187 / 203 / 241 / 250)

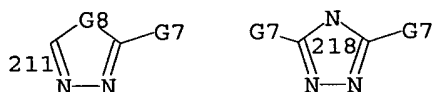


G4 = aryl (opt. substd. by 1 or more G9) /  
Ph (opt. substd.) / heterocycle <containing 1 or more  
heteroatoms, zero or more N, zero or more O,  
zero or more S (no other heteroatoms), mono- or bicyclic>  
(opt. substd. by 1 or more G9) / acyl /  
arylcarbonyl (opt. substd.) / 15 / 21 / 27 /  
pyridyl (opt. substd.) / pyrazolyl (opt. substd.) /  
furyl (opt. substd.)

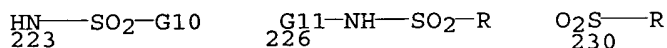


G5 = H / carbon chain / aryl / heterocycle / Ph  
G6 = aryl (opt. substd. by 1 or more G9) /  
Ph (opt. substd.) / heterocycle <containing 1 or more  
heteroatoms, zero or more N, zero or more O,

zero or more S (no other heteroatoms), mono- or bicyclic>  
 (opt. substd. by 1 or more G9) /  
 alkyl <containing 1-30 C> (opt. substd. by 1 or more G9) /  
 alkenyl <containing 2-30 C> (opt. substd. by 1 or more G9) /  
 alkynyl <containing 2-30 C> (opt. substd. by 1 or more G9) /  
 cycloalkyl <containing 3-30 C> (opt. substd. by 1 or more G9)  
 / tetrazolyl (opt. substd.) / 211 / 218 /  
 benzimidazolyl (opt. substd.) /  
 benzothiazolyl (opt. substd.) / 2-pyridyl (opt. substd.)



G7 = H / R  
 G8 = S / O / NH (opt. substd.)  
 G9 = R / (Examples: halo / alkoxycarbonyl <containing  
 1-30 C> (opt. substd.) / acylamino / 223 /  
 CONH2 (opt. substd.) / 226 / SO2NH2 (opt. substd.) /  
 alkoxy <containing 1-30 C> (opt. substd.) /  
 aryloxy <containing 6-20 C> (opt. substd.) /  
 aryloxy carbonyl <containing 6-20 C> (opt. substd.) / 230 /  
 alkoxycarbonylamino <containing 1-30 C> (opt. substd.) / CN /  
 NH2 (opt. substd.) / CO2H (opt. substd.) /  
 OH (opt. substd.) / SO3H (opt. substd.) /  
 alkylthio <containing 1-30 C> (opt. substd.) /  
 NHCONH2 (opt. substd.) / aryl <containing 6-20 C>  
 (opt. substd.) / heterocycle <containing 1 or more  
 heteroatoms, zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), mono- or bicyclic>  
 (opt. substd.) / alkyl <containing 1-30 C> (opt. substd.) /  
 cycloalkyl <containing 3-30 C> (opt. substd.) /  
 alkenyl <containing 2-30 C> (opt. substd.) /  
 alkynyl <containing 2-30 C> (opt. substd.) / acyl / acyloxy /  
 arylthio <containing 6-20 C> (opt. substd.))



G10 = R / NH2 (opt. substd.)  
 G11 = C(O) / SO2  
 G12 = H / CH2Ph / CH2CO2H  
 G13 = hexyl / pentyl

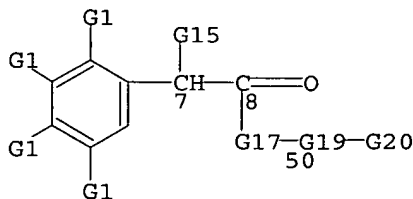
Patent location: claim 1

L71 ANSWER 130 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 118:22154 MARPAT  
 TITLE: Preparation of (quinolylmethyl)biphenylcarboxylates  
 and analogs as drugs  
 INVENTOR(S): Clemence, Francois; Fortin, Michel; Haesslein, Jean  
 Luc  
 PATENT ASSIGNEE(S): Roussel-UCLAF, Fr.  
 SOURCE: Eur. Pat. Appl., 110 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: French  
 FAMILY ACC. NUM. COUNT: 1

## PATENT INFORMATION:

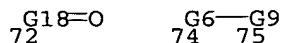
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 498723	A1	19920812	EP 1992-400296	19920205
EP 498723	B1	20010919		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, MC, NL, PT, SE				
FR 2672596	A1	19920814	FR 1991-1374	19910207
FR 2672596	B1	19950713		
FR 2680510	A1	19930226	FR 1991-10435	19910820
FR 2680510	B1	19950623		
AU 9210709	A1	19920820	AU 1992-10709	19920205
AU 658163	B2	19950406		
JP 04346974	A2	19921202	JP 1992-47750	19920205
JP 3599351	B2	20041208		
AT 205832	E	20011015	AT 1992-400296	19920205
ES 2161688	T3	20011216	ES 1992-400296	19920205
PT 498723	T	20020228	PT 1992-400296	19920205
CA 2060750	AA	19920808	CA 1992-2060750	19920206
HU 64522	A2	19940128	HU 1992-366	19920206
RU 2119481	C1	19980927	RU 1992-5011269	19920206
CN 1063869	A	19920826	CN 1992-100804	19920207
BR 9200424	A	19921013	BR 1992-424	19920207
ZA 9200895	A	19930428	ZA 1992-895	19920207
US 5817674	A	19981006	US 1996-583637	19960105
US 6004979	A	19991221	US 1998-71586	19980501
GR 3036805	T3	20020131	GR 2001-401668	20011004
PRIORITY APPLN. INFO.:			FR 1991-1374	19910207
			FR 1991-10435	19910820
			US 1992-832749	19920207
			US 1994-191862	19940204
			US 1996-583637	19960105
AB Title compds. [I; RR1 = Z1:Z2:Z3:Z4; R2,R3 = H, halo, alkyl, aryl, CONH2, etc.; Z1-Z4 = N, CR4; R4 = H, alkyl, aryl, Z5R5, etc.; R5 = Y1BY2; B ≠ bond, O, CO, CONH, etc.; Y1 = (substituted) aryl; when B = bond Y2 may = H, halo, OH, CO2H, etc.; Y2 may = Y1; Z5 = alkylene] were prepared Thus, MeCOBu was condensed with (EtO)2CO and the product condensed with PhNH2 to give PhNHCBu:CHCO2Et which was cyclized and the product chlorinated to give 4-chloro-2-butylquinoline. The latter as condensed with 4-(BrH2C)C6H4C6H4(CO2Me)-2 in the presence of Zn and (Ph3P)4Pd to give, after saponification, title compound II which had IC50 of 131 nM against angiotensin II effect on isolated rat portal vein.				

## MSTR 3E

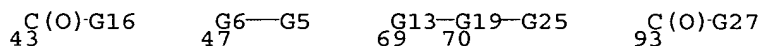


- G1 = 2 or more H / R  
 G4 = R <"ester group"> / (Examples: loweralkyl / CH2Ph)  
 G5 = aryl (opt. substd.) / heteroaryl <containing 1 or more heteroatoms, zero or more O, zero or more N,

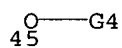
zero or more S (no other heteroatoms)> (opt. substd.)  
 G6 = O / S  
 G9 = alkylene <containing 1-4 C, unbranched>  
 G13 = alkylene <containing 1-4 C> (opt. substd.) / 72 /  
 NH / O / S / 74-7 75-70



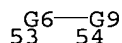
G15 = H / OH / CN / 43 / 93 /  
 cycloalkyl <containing 3-7 C> /  
 carbon chain <containing up to 6 C, 0 or more double bonds,  
 0 or more triple bonds> (opt. substd.) /  
 alkoxy <containing up to 6 C> (opt. substd.) /  
 alkylthio <containing up to 6 C> (opt. substd.) /  
 aryl (opt. substd.) / heteroaryl <containing 1 or more  
 heteroatoms, zero or more O, zero or more N,  
 zero or more S (no other heteroatoms)> (opt. substd.) /  
 carbon chain <containing up to 6 C, 0 or more double bonds,  
 no triple bonds> (substd. by 1 or more G5) / 47 / 69



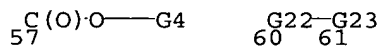
G16 = Ph / NH2 / OH / 45 / H / R



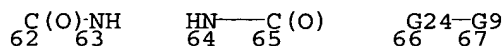
G17 = NH / O / S / 53-8 54-50



G18 = carbon chain <containing 1-4 C, saturated> .  
 (opt. substd.)  
 G19 = arylene (opt. substd.) /  
 heteroarylene <containing 1 or more heteroatoms,  
 zero or more O, zero or more N,  
 zero or more S (no other heteroatoms)> (opt. substd.)  
 G20 = H / halo / OH / CN / NO2 / CF3 / CO2H / 57 /  
 tetrazolyl / isoxazolyl / 60

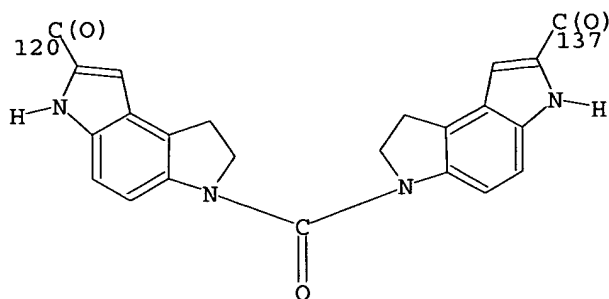


G22 = C(O) / 62-50 63-61 / 64-50 65-61 / NH / O / S /  
 66-50 67-61

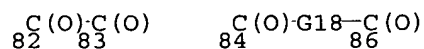


G23 = aryl (opt. substd.) / heteroaryl <containing 1 or  
 more heteroatoms, zero or more O, zero or more N,

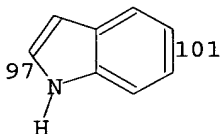
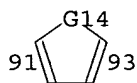
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G14 = NH / O  
 G15 = H / alkyl <containing 1-8 C>  
 G16 = H / alkyl <containing 1-8 C>  
 G17 = C(O) / 82-77 83-79 / **84-77 86-79**



G18 = **G20** / m-C6H4 / p-C6H4 /  
 heteroarylene <containing 1-3 heteroatoms, zero or more N,  
 zero or more O, zero or more S (no other heteroatoms),  
 1-3 rings> (opt. substd.)  
 G19 = heteroarylene <containing 1-3 heteroatoms,  
 zero or more N, zero or more O,  
 zero or more S (no other heteroatoms), 1-3 rings>  
 (opt. substd.) / (Specifically claimed: 93-87 91-89 /  
 97-87 101-89 )



G20 = (1-5) **CH2**  
 G15+G16= CH2CH2 / CH2CH2CH2  
 Patent location: claim 1

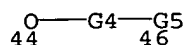
=> file stnguide

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 USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT  
 COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY, JAPAN SCIENCE  
 AND TECHNOLOGY CORPORATION, AND FACHINFORMATIONSZENTRUM KARLSRUHE

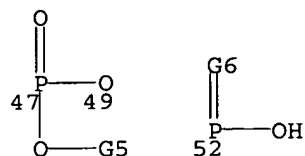
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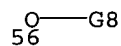
G4 = 47-44 49-46 / 52 / S(O) / SO2



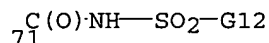
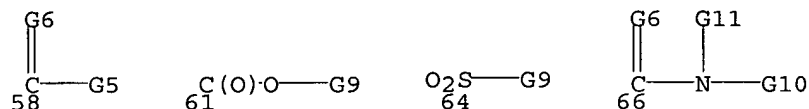
G5 = alkyl <containing 1-20 C> /  
alkenyl <containing 2-6 C> / alkynyl <containing 2-6 C> /  
carbocycle <containing 6-10 C, aromatic,  
bonds all normalized, mono- or bicyclic,  
(1-2) 6-membered rings only> (opt. substd.)

G6 = O / S

G7 = OH / 56



G8 = 58 / 61 / 64 / 66 / 71



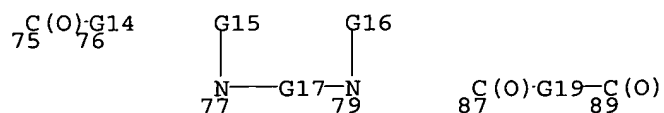
G9 = alkyl <containing 1-20 C> /  
carbocycle <containing 6 C, aromatic, 6 normalized bonds,  
6-membered monocyclic ring> (opt. substd.)

G10 = H / alkyl <containing 1-20 C> /  
carbocycle <containing 6 C, aromatic, 6 normalized bonds,  
6-membered monocyclic ring> (opt. substd.)

G11 = H / alkyl <containing 1-20 C>

G12 = alkyl <containing 1-10 C> /  
carbocycle <containing 6-10 C, aromatic,  
bonds all normalized, mono- or bicyclic,  
(1-2) 6-membered rings only> (opt. substd.)

G13 = 75-2 76-4 / 76-2 75-4 / 77-2 79-4 / 87-2 89-4 /  
(Specifically claimed: 120-2 137-4 )

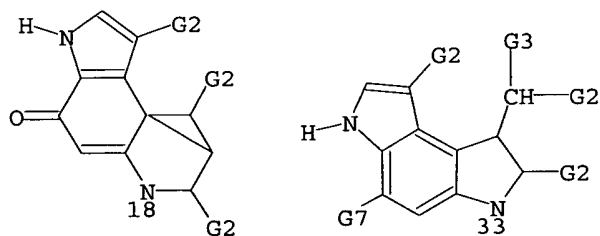


PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 359454	A1	19900321	EP 1989-308920	19890904
EP 359454	B1	20001227		
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
WO 9002746	A1	19900322	WO 1989-US3329	19890807
W: AU, DK, FI, HU, JP, KR, NO, SU, US				
RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
AU 8941922	A1	19900402	AU 1989-41922	19890807
AU 632288	B2	19921224		
JP 04500664	T2	19920206	JP 1989-509236	19890807
JP 3380237	B2	20030224		
CA 1340215	A1	19981215	CA 1989-608908	19890821
AT 198335	E	20010115	AT 1989-308920	19890904
ES 2153814	T3	20010316	ES 1989-308920	19890904
KR 137959	B1	19980515	KR 1990-700977	19900511
DK 9100417	A	19910308	DK 1991-417	19910308
DK 175458	B1	20041101		
US 5541339	A	19960730	US 1991-659415	19910308
NO 9100958	A	19910510	NO 1991-958	19910311
NO 303498	B1	19980720		
FI 103668	B1	19990813	FI 1991-1193	19910311
GR 3035589	T3	20010629	GR 2001-400433	20010315
LV 12806	B	20020520	LV 2001-180	20011227
PRIORITY APPLN. INFO.:			US 1988-243350	19880912
			WO 1989-US3329	19890807
<p>AB CPI1-R5-T-R6-CPI2 [CPI1, CPI2 = Q, Q1; W = alkyl, pH, H; C = N3, halo, cyanato, thiocyanato, isocyanato, thioisocyanato, P(O)(OR)2, etc.; Y = C(O)R, C(S)R, C(O)OE1, C(O)NR2R3, etc.; Z = alkyl, alkenyl, alkynyl, (substituted) Ph, etc.; R1 = alkyl, (substituted) phenyl; R2, R3 = H, alkyl, (substituted) Ph, etc.; T = NHCO, CONH, C(O)O, OC(O), etc.; R5, R6 = bond, acyl etc.], useful as antitumors and UV absorbers in textile industry, were prepared Indole derivative I (R7 = OH) (preparation given) was condensed with benzodipyrrole derivative Q2CO2CMe3 to give I (R7 = Q2). This at 15 µg/kg i.v. effected 60% cure (surviving 30 days) in mice transplanted with L 1210 leukemia cells.</p>				

## MSTR 1D

$$\begin{matrix} G1 & - & G13 & - & G1 \\ 2 & & 3 & & 4 \end{matrix}$$

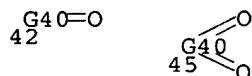
G1 = 18 / 33



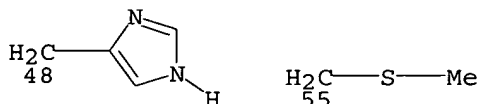
G2 = alkyl <containing 1-5 C> / Ph / H  
 G3 = N3 / halo / OCN / SCN / NCO / NCS / 44



- G37 = H / alkoxy <containing 1-4 C> / alkylthio <containing 1-4 C> / alkylamino <containing 1-4 C> / OH / N3 / F / Cl / Br / I
- G38 = alkyl <containing 1-7 C>
- G39 = heterocycle <containing 1-2 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), 5- to 7-membered monocyclic ring> (opt. substd.) / heterocycle <containing 1-2 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), 6 or more C, aromatic, 6 or more normalized bonds, bicyclic, (up to 1) 5-membered, (1-2) 6-membered, (up to 1) 7-membered rings only> (opt. substd.) / 42 / 45 / (Example: pyridyl)



- G40 = heterocycle <containing 1-2 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), 5- to 7-membered monocyclic ring> (opt. substd.) / heterocycle <containing 1-2 heteroatoms, zero or more N, zero or more O, zero or more S (no other heteroatoms), 6 or more C, aromatic, 6 or more normalized bonds, bicyclic, (up to 1) 5-membered, (1-2) 6-membered, (up to 1) 7-membered rings only> (opt. substd.)
- G41 = alkyl (opt. substd. by 1 or more G42) / R <"amino acid group"> / 48 / Pr-n / 55



G42 = CO<sub>2</sub>H / CONH<sub>2</sub> / R

Derivative: or physiologically acceptable salts

Patent location: claim 1

L71 ANSWER 137 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 113:152387 MARPAT

TITLE: CC-1065 analogs having two CPI subunits useful as antitumor agents and ultraviolet light absorbers

INVENTOR(S): Kelly, Robert C.; Aristoff, Paul A.

PATENT ASSIGNEE(S): Upjohn Co., USA

SOURCE: Eur. Pat. Appl., 49 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

cycloalkyl <containing 3-8 C> /  
 alkyl <containing 1-4 C> (substd. by 1 or more cycloalkyl  
 <containing 3-8 C>) / aryl <containing 6-12 C>  
 (opt. substd.) / aralkyl (opt. substd.)  
 G20 = 17 / SO2 / S(O)

$\text{C}=\text{G21}$   
 17

G21 = 0 / S  
 G23 = 19 / 21

$\text{HC}-\text{G24}$      $\text{HC}-\text{G25}$   
 19            21

G24 = H / aryl <containing 6-12 C> (opt. substd.) /  
      cycloalkyl <containing 3-8 C> / heteroaryl (opt. substd.)  
 G25 = alkyl <containing 1-10 C> / 23

$\text{G26}-\text{G27}$   
 23

G26 = alkylene <containing 1-4 C>  
 G27 = aryl <containing 6-12 C> (opt. substd.) /  
      cycloalkyl <containing 3-8 C> / heteroaryl (opt. substd.)  
 G28 = 27 / 29

$\text{HC}-\text{G29}$      $\text{HC}-\text{G30}$   
 27            29

G29 = H / cycloalkyl <containing 3-8 C> /  
      aryl <containing 6-12 C> (opt. substd.)  
 G30 = alkyl <containing 1-10 C> / 31

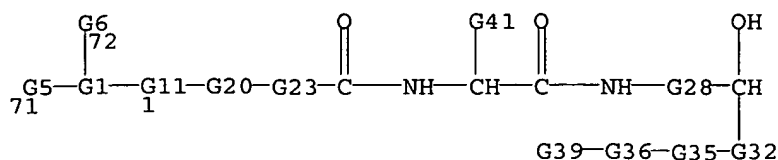
$\text{G26}-\text{G31}$   
 31

G31 = cycloalkyl <containing 3-8 C> /  
      aryl <containing 6-12 C> (opt. substd.)  
 G32 = 34 / 36

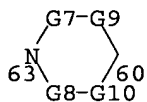
$\text{HC}-\text{G33}$      $\text{HC}-\text{G34}$   
 34            36

G33 = H / aryl <containing 6-12 C> (opt. substd.) / OH /  
      NH2  
 G34 = alkyl <containing 1-10 C> /  
      alkyl <containing 1-4 C> (substd. by 1 or more aryl  
      <containing 6-12 C> (opt. substd.))  
 G35 = bond / alkylene <containing 1-4 C, unbranched>  
 G36 = 38 / 40

## MSTR 1E

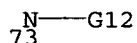


G1 = 63-71 60-72 60-1 / heterocycle <containing 1 heteroatom, 1 N (no other heteroatoms), attached through 1 N, 1 C, saturated, 2 C fusion atoms, bicyclic> (opt. substd. by 1 or more alkyl <containing 1-6 C> )



G5 = H / carbon chain <containing 1-21 C> (opt. substd.) / carbocycle <containing 3-20 C> (opt. substd.) / aryl <containing 6-12 C> (opt. substd.) / heteroaryl (opt. substd.) / CHO / alkylcarbonyl <containing 1-17 C> (opt. substd.) / cycloalkylcarbonyl <containing 3-8 C> (opt. substd.) / alkylcarbonyl <containing 1-7 C> (substd. by 1 or more cycloalkyl <containing 3-8 C> (opt. substd.)) / arylcarbonyl <containing 6-12 C> (opt. substd.) / heteroarylcarbonyl (opt. substd.) / alkylcarbonyl <containing 1-7 C> (substd. by 1 or more aryl <containing 6-12 C> (opt. substd.)) / alkylcarbonyl <containing 1-7 C> (substd. by 1 or more heteroaryl (opt. substd.)) / alkoxy carbonyl <containing 1-4 C> (substd. by 1 or more aryl <containing 6-12 C> (opt. substd.)) / NH<sub>2</sub> / alkylamino <containing 1-4 C> (opt. substd.) / dialkylamino <each alkyl containing 1-4 C> (opt. substd.) / OH / alkoxy <containing 1-4 C> (opt. substd.) / alkylsulfonyl <containing 1-4 C> (opt. substd.) / arylsulfonyl <containing 6-12 C> (opt. substd.) / CONH<sub>2</sub>

G6 = H / alkyl <containing 1-6 C>  
 G7 = bond / alkylene <containing 1-3 C, unbranched>  
 G8 = alkylene <containing 1-4 C, unbranched>  
 G9 = bond / alkylene <containing 1-3 C, unbranched> (opt. substd. by 1 or more alkyl <containing 1-6 C>)  
 G10 = alkylene <containing 1-4 C, unbranched> (opt. substd. by 1 or more alkyl <containing 1-6 C>)  
 G11 = NH / 73



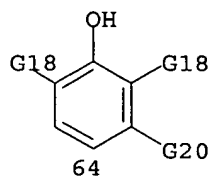
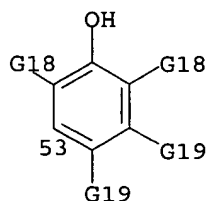
G12 = alkyl <containing 1-8 C> /

Derivative: and acid addition salts  
 Patent location: claim 2  
 Note: oxygen in G11 is free radical

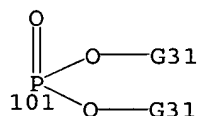
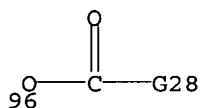
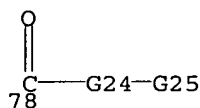
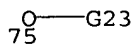
L71 ANSWER 136 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 115:115099 MARPAT  
 TITLE: Preparation of acylamino acid amides as renin  
 inhibitors and antivirals  
 INVENTOR(S): Heitsch, Holger; Henning, Rainer; Linz, Wolfgang;  
 Nickel, Wolf Ulrich; Ruppert, Dieter; Urbach,  
 Hansjoerg  
 PATENT ASSIGNEE(S): Hoechst A.-G., Germany  
 SOURCE: Eur. Pat. Appl., 38 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 417698	A2	19910320	EP 1990-117400	19900910
EP 417698	A3	19920108		
EP 417698	B1	19960313		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
DE 4028741	A1	19910328	DE 1990-4028741	19900910
DD 295377	A5	19911031	DD 1990-343925	19900910
US 5374731	A	19941220	US 1990-579695	19900910
AT 135368	E	19960315	AT 1990-117400	19900910
ES 2086341	T3	19960701	ES 1990-117400	19900910
CA 2025093	AA	19910313	CA 1990-2025093	19900911
NO 9003952	A	19910313	NO 1990-3952	19900911
NO 177143	B	19950418		
NO 177143	C	19950726		
AU 9062340	A1	19910321	AU 1990-62340	19900911
AU 639259	B2	19930722		
JP 03106877	A2	19910507	JP 1990-239140	19900911
HU 55380	A2	19910528	HU 1990-5859	19900911
HU 206704	B	19921228		
ZA 9007205	A	19910626	ZA 1990-7205	19900911
PRIORITY APPLN. INFO.:			DE 1989-3930397	19890912
			DE 1989-3933096	19891004

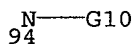
AB R1-X-Y-CHR2CO-B-NHCHR3CH(OH)CHR4R5 [I; R1 = (substituted) amino(alkyl)heterocyclyl, e.g., 4-amino-1-piperidinyl, heterocyclylamino, e.g., 4-piperidinylamino; R2 = H, alkyl, cycloalkyl, cycloalkylalkyl, aryl, aralkyl, heteroaryl, heteraralkyl; R3 = H, alkyl, cycloalkyl, cycloalkylalkyl, aryl aralkyl; R4 = H, alkyl, aryl, aralkyl, OH, NH2; R5 = heterocyclyl (substituted) alkyl; X = CO, CS, SO2; Y = bond, (substituted) alkylene, O, S; B = amino acid residue, e.g., His, Phe] were prepared BOC-His (DNP)-NHCH(CH2Q)CH(OH)CH(OH)CH2CH2-Q1 [DNP = 2,4-dinitrophenyl; Q = cyclohexyl, Q1 = 2-pyridyl] (preparation given) was deprotected with CF3CO2H-CH2Cl2 and the product condensed with Q2-COCH2CH(Bzl)CO2H [Bzl = benzyl, Q2 = 4-tert-butoxycarbonylamino-1-piperidinyl] (preparation given) in DMF containing DCC, 1-hydroxy-1H-benzotriazole, N-ethylmorpholine to give, after deprotection with thiophenol in MeCN, I [R1 = 4-amino-1-piperidinyl, R2 = Bzl, X = CO, Y = bond, B = His, R3 = cyclohexylmethyl, R4 = OH, R5 = 2-(2-pyridinyl)ethyl]. In an in vitro test using human plasma I showed ED50 values of 10-5 to 10-10 mol/L against formation of angiotensin from angiotensinogen and renin.



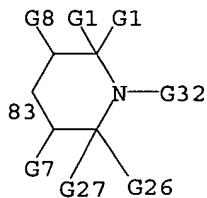
- G18 = alkyl <containing 1-9 C> / aralkyl /  
cycloalkyl <containing 5-8 C>  
G19 = H / (up to 1) Me  
G20 = H / Me  
G21 = alkyl <containing 1-20 C> /  
alkyl <containing 1-10 C> (substd. by 1 or more G22)  
G22 = 75 / alkylcarbonyl <containing 1-12 C> / CN / 78 /  
96 / 101



- G23 = Ph (opt. substd. by 1 or more alkyl <containing 1-3  
C>) / CH<sub>2</sub>Ph / cyclohexyl  
G24 = O / NH / 94



- G25 = alkyl <containing 1-18 C> /  
cycloalkyl <containing 5-12 C> / 83



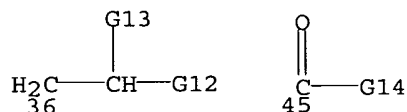
- G26 = alkyl <containing 1-6 C>  
G27 = alkyl <containing 1-9 C> / Ph / CH<sub>2</sub>Ph / CH<sub>2</sub>CH<sub>2</sub>Ph  
G28 = alkyl <containing 1-17 C> /  
cycloalkyl <containing 5-12 C> /  
Ph (opt. substd. by 1 or more G29) /  
alkyl (substd. by 1 or more G30)  
G29 = alkyl <containing 1-4 C> / OH  
G30 = Ph (opt. substd. by 1 or more G29)  
G31 = alkyl <containing 1-8 C> / CH<sub>2</sub>CH=CH<sub>2</sub> / Ph  
G32 = H / R  
G33 = (1-2) CH<sub>2</sub>  
G34 = CH<sub>2</sub> / NH / O  
G2 + G3 = G6  
G4 + G5 = G6  
G26 + G27 = G6

G33-Ph  
108

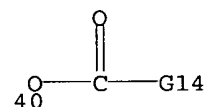
G6 = (4-5) CH2  
 G7 = H / alkyl <containing 1-5 C> /  
       alkenyl <containing 3-4 C> / alkynyl <containing 3-4 C> /  
       aralkyl  
 G8 = H / alkyl <containing 1-5 C> /  
       alkenyl <containing 3-4 C> / alkynyl <containing 3-4 C> /  
       aralkyl  
 G9 = O / NH / 32

N—G10  
32

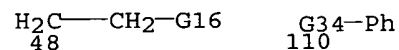
G10 = alkyl <containing 1-18 C> /  
       alkenyl <containing 3-4 C> / alkynyl <containing 3-4 C> /  
       cycloalkyl <containing 5-12 C> / aryl <containing 6-10 C> /  
       aralkyl  
 G11 = H / O / alkyl <containing 1-12 C> /  
       alkenyl <containing 3-4 C> / propargyl / CH2Ph / 36 / 45



G12 = H / Me / Ph  
 G13 = OH / 40



G14 = alkyl <containing 1-12 C> /  
       alkenyl <containing 2-3 C> / cyclohexyl / Ph /  
       carbocycle <containing 6 C, aromatic, 6 normalized bonds,  
       6-membered monocyclic ring> (opt. substd. by (3) G15) / 110 /  
       48 / alkylamino <containing 1-12 C> /  
       dialkylamino <each alkyl containing 1-15 C> /  
       alkoxy <containing 1-12 C> / OCH2Ph



G15 = (2) alkyl <containing 1-4 C> / OH  
 G16 = carbocycle <containing 6 C, aromatic,  
       bonds all normalized, 6-membered monocyclic ring>  
       (substd. by (3) G15)  
 G17 = 53 / 64



Stereochemistry: and stereoisomers

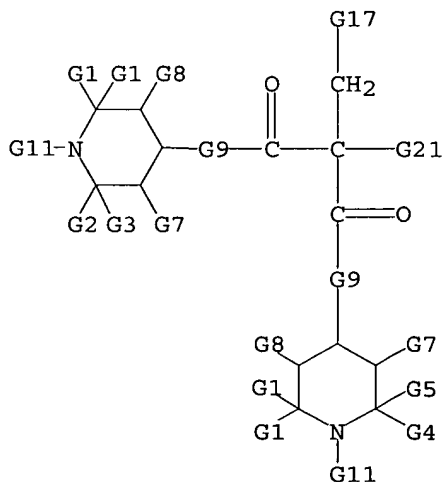
L71 ANSWER 135 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 115:160686 MARPAT  
 TITLE: Antioxidants for siloxanes  
 INVENTOR(S): Burnier, Julia S.  
 PATENT ASSIGNEE(S): Hercules Inc., USA  
 SOURCE: U.S., 12 pp.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5025048	A	19910618	US 1990-508323	19900412
PRIORITY APPLN. INFO.:			US 1990-508323	19900412

AB Hindered phenols and amines are antioxidants for compns. containing unsatd. siloxanes and hydrogen siloxanes. Adding 101 parts methylhydrocyclosiloxanes to 100 parts dicyclopentadiene and 0.020 part H<sub>2</sub>PtCl<sub>6</sub> stirred 1 h at 50° and cooled; stirring 12 h at room temperature, adding 1.5 phr bis(1,2,2,6,6-pentamethyl-4-piperidinyl) (3,5-di-tert-butyl-4-hydroxybenzyl)butylpropanedioate (I), and curing at 150° for 2 h and at 275° for 2 h gave a composition with oxidation initiation time in O 36 min; vs. ≤1 without I.

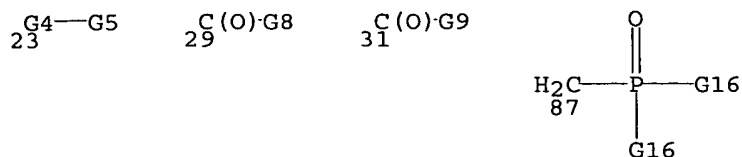
## MSTR 1A



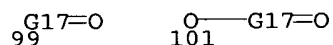
G1 = alkyl <containing 1-6 C>  
 G2 = alkyl <containing 1-6 C>  
 G3 = alkyl <containing 1-9 C> / Ph / 106

G33-Ph  
 106

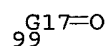
G4 = alkyl <containing 1-6 C>  
 G5 = alkyl <containing 1-9 C> / Ph / 108



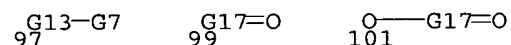
G4 = alkylene (opt. substd.)  
 G5 = heterocycle (opt. substd.) /  
 cycloalkyl (opt. substd.) / aryl (opt. substd.) /  
 heteroaryl (opt. substd.) / **99** / aryloxy (opt. substd.) /  
 heteroaryloxy (opt. substd.) / 101



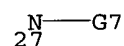
G7 = alkyl (opt. substd. by 1 or more G10) /  
 alkenyl (opt. substd.) / alkynyl (opt. substd.) /  
 aryl (opt. substd.) / heteroaryl (opt. substd.) / **99**



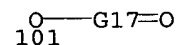
G8 = OH / alkoxy (opt. substd. by 1 or more G10) /  
 alkenyloxy (opt. substd.) / alkynyloxy (opt. substd.) /  
 aryloxy (opt. substd.) / heteroaryloxy (opt. substd.) / 101 /  
**NH2** / **97** / H / aryl (opt. substd.) /  
 heteroaryl (opt. substd.) / **99**



G9 = carbon chain (opt. substd. by 1 or more G10)  
 G10 = R / aryl (opt. substd.)  
 G13 = NH / **27**



G16 = OH / alkoxy (opt. substd. by 1 or more G10) /  
 alkenyloxy (opt. substd.) / alkynyloxy (opt. substd.) /  
 aryloxy (opt. substd.) / heteroaryloxy (opt. substd.) / 101



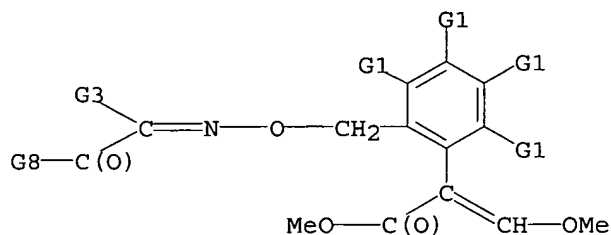
G17 = heterocycle <containing 1 or more N,  
 attached through 1 or more N, aromatic,  
 2 or more double bonds, 1 or more 5-membered rings> /  
 heterocycle <containing 1 or more N,  
 attached through 1 or more N, aromatic,  
 6 or more normalized bonds, 1 or more 6-membered rings>

Patent location: claim 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
BR 8905855	A	19900612	BR 1989-5855	19891121
ZA 8908363	A	19900725	ZA 1989-8363	19891102
HU 52030	A2	19900628	HU 1989-5673	19891106
HU 204491	B	19920128		
DD 289045	A5	19910418	DD 1989-334667	19891117
LT 3730	B	19960226	LT 1993-935	19930903
US 5371084	A	19941206	US 1993-142109	19931028
US 5432197	A	19950711	US 1994-295424	19940825
US 5631253	A	19970520	US 1994-352764	19941202
US 5763640	A	19980609	US 1996-774798	19961230
PRIORITY APPLN. INFO.:			GB 1988-27149	19881121
			GB 1989-5383	19890309
			GB 1989-24122	19891026
			US 1989-436752	19891115
			US 1991-744518	19910813
			US 1993-142109	19931028
			US 1994-295424	19940825
			US 1994-352764	19941202

AB The oxime derivs. I [R = H, halo, OH, alkyl, etc.; R1,R2 = H, (un) substituted alkyl, cycloalkyl or heterocyclylalkyl, etc.; R1CR2 = ring] are prepared as fungicides, insecticides or acaricides. A solution of 1.23 g acetophenone oxime in 5 mL DMF was treated with a soln. of 0.367 g NaH in 25 mL DMF, followed by addition of a solution of 2 g Me (E)-2-[2-(bromomethyl)phenyl]-3-methoxypropenoate in 15 mL DMF, to give (E,E)-I (R = H, R1 = Ph, R2 = Me) (II). II (0.05%) prevented artificial infection of wheat with *Erysiphe graminis*. Formulation examples are given.

## MSTR 1F

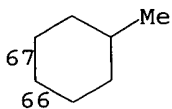
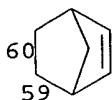
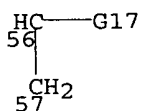


G1 = 3 or more H / halo / OH /  
alkyl <containing 1-4 C> (opt. substd. by 1 or more halo) /  
alkoxy <containing 1-4 C> / 104 /  
alkylcarbonyl <containing 1-3 C> / OPh / NO2 / CN /  
(Specifically claimed: OCF3)

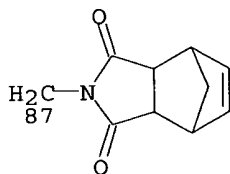
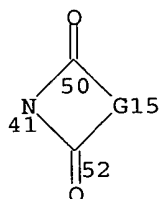
<sup>C(O)</sup>G2  
104

G2 = H / alkoxy <containing 1-4 C>  
G3 = carbon chain (opt. substd.) / 23 / CN / 29 / 31 /  
87

- G11 = alkyl <containing 1-6 C> / Ph /  
(Specifically claimed: Me)
- G12 = bond / alkylene <containing 1-10 C, unbranched>  
(opt. substd. by 1 or more G13) / G19
- G13 = alkyl <containing 1-6 C> / Ph /  
(Specifically claimed: Me)
- G15 = carbon chain <containing 2-64 C>  
(opt. substd. by 1 or more G16) /  
**carbocycle <containing 3-18 C, attached through 2 or more C,  
non-aromatic, mono- or bicyclic>**  
(opt. substd. by 1 or more G16) /  
(Specifically claimed: 56-50 57-52 / 60-50 59-52 /  
67-50 66-52 / CH=CH)



- G16 = alkyl <containing 1-24 C> /  
alkoxy <containing 1-24 C> / alkylthio <containing 1-24 C> /  
alkenyl <containing 2-24 C> / alkyl <containing 1-23 C>  
(substd. by 1 or more alkoxy <containing 1-23 C>) /  
alkyl <containing 1-23 C> (substd. by 1 or more alkylthio  
<containing 1-23 C>) / acyloxy /  
alkoxycarbonyl <containing 2-24 C> /  
carbocycle <containing 3-12 C, non-aromatic> /  
dialkylaminocarbonyl <each alkyl containing 3-41 C> / Ph
- G17 = octadecyl / hexadecyl / dodecyl / octyl /  
tetradecyl
- G18 = (1-6) CH2 (opt. substd.)
- G19 = (1-10) CH2 (opt. substd.)
- G20 = 41 / (Specifically claimed: 87)



Patent location:

claim 1

Note:

the tertiary alkyl groups in G2, and G7 contain  
from 4-8 carbon atoms

L71 ANSWER 134 OF 137 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 115:201133 MARPAT

TITLE: Preparation of oxide derivatives as pesticides

INVENTOR(S): John, Paul; Martin, Anne

PATENT ASSIGNEE(S): Imperial Chemical Industries PLC, UK

SOURCE: Braz. Pedido PI, 88 pp.  
CODEN: BPXXDX

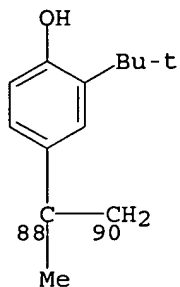
DOCUMENT TYPE: Patent

LANGUAGE: Portuguese

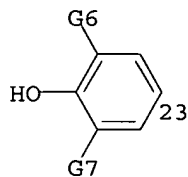
FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

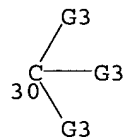
G3 = alkyl <containing 1-5 C>  
 G4 = **bond** / alkylene <containing 1-6 C, unbranched>  
 (opt. substd. by 1 or more G5) / G18 /  
 (Specifically claimed: 88-3 90-39 )



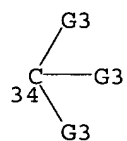
G5 = alkyl <containing 1-6 C> / Ph / (up to 6) 23



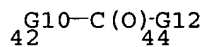
G6 = 30 / cycloalkyl <containing 3-6 C> /  
 (Specifically claimed: Bu-t)



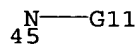
G7 = H / alkyl <containing 1-8 C> / 34 /  
 cycloalkyl <containing 3-6 C> / (Specifically claimed: Bu-t)



G9 = bond / 42-38 44-40



G10 = **NH** / 45

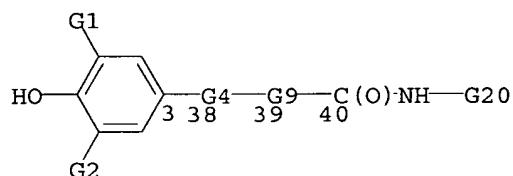


INVENTOR(S): Wicher, Jerome  
 PATENT ASSIGNEE(S): Atochem North America, Inc., USA  
 SOURCE: Eur. Pat. Appl., 17 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

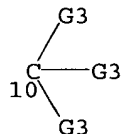
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 443540	A1	19910828	EP 1991-102405	19910220
R: BE, CH, DE, DK, FR, GB, IT, LI, NL, SE				
US 5068356	A	19911126	US 1990-481940	19900220
JP 05140100	A2	19930608	JP 1991-35288	19910205
CA 2036323	AA	19910821	CA 1991-2036323	19910214
BR 9100661	A	19911029	BR 1991-661	19910219
US 5100940	A	19920331	US 1991-747774	19910820
PRIORITY APPLN. INFO.:			US 1990-481940	19900220

AB Title compds. are effective antioxidants and heat stabilizers for polymers, etc.; and particularly useful for compns. contaminated by metals and their ions. Thus, heating 161 mmol 2-octadecylsuccinic anhydride with 160 mmol 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propanoic acid hydrazide in 150 mL PhMe at reflux for 1 h under N with azeotropic removal of H<sub>2</sub>O, and removing the bulk of solvent gave N-[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propanamido]-2-octadecylsuccinimide (I). Compounding a polypropylene with 0.23% I and 0.10% Irgafos 168, and injection molding gave test pieces which showed time to failure in a forced air oven (150°) 500 h compared to 22 h for polypropylene alone.

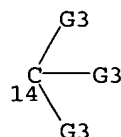
# MSTR 1



G1 = 10 / cycloalkyl <containing 3-6 C> /  
 (Specifically claimed: Bu-t)



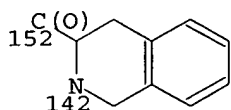
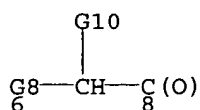
G2 = H / alkyl <containing 1-8 C> / 14 /  
 cycloalkyl <containing 3-6 C> / (Specifically claimed: Bu-t)



G18 = bond / alkylene <containing 1-3 C>  
 G19 = alkylene <containing 1-4 C>  
 G20 = H / alkyl <containing 1-6 C>  
 G21 = NH / 153

N—G26  
 153

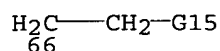
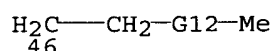
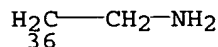
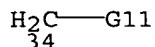
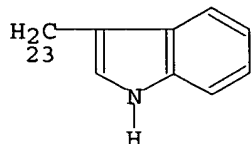
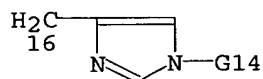
G22 = bond / alkylene <containing 1-3 C>  
 (opt. substd. by alkyl <containing 1-6 C>)  
 G23 = carbon chain <containing 1-4 C, saturated>  
 (opt. substd. by alkyl <containing 1-6 C>)  
 G24 = carbon chain <containing 1-3 C, saturated>  
 (opt. substd. by alkyl <containing 1-6 C>)  
 G25 = alkylene <containing 1-6 C>  
 G26 = alkyl <containing 1-8 C> /  
 cycloalkyl <containing 3-8 C> /  
 alkyl <containing 1-4 C> (substd. by cycloalkyl <containing  
 3-8 C>) / aryl <containing 6-12 C> (opt. substd.) /  
 aralkyl (opt. substd.)  
 G28 = H / alkyl <containing 1-21 C> /  
 cycloalkyl <containing 3-20 C> (opt. substd.) /  
 alkyl (substd. by cycloalkyl <containing 4-20 C>  
 (opt. substd.)) / aryl <containing 6-12 C> (opt. substd.) /  
 alkyl <containing 1-20 C> (substd. by aryl <containing 6-12  
 C> (opt. substd.)) / alkyl <containing 1-8 C>  
 (substd. by heteroaryl <containing 5-12 atoms>  
 (opt. substd.)) / alkylcarbonyl <containing 1-17 C>  
 (opt. substd.) / CHO / alkylcarbonyl <containing 1-7 C>  
 (substd. by cycloalkyl <containing 3-8 C> (opt. substd.)) /  
 arylcarbonyl <containing 6-12 C> (opt. substd.) /  
 heteroarylcarbonyl <containing 5-12 C> (opt. substd.) /  
 alkylcarbonyl <containing 1-17 C>  
 (substd. by aryl <containing 6-12 C> (opt. substd.)) /  
 alkylcarbonyl <containing 1-17 C>  
 (substd. by heteroaryl <containing 5-12 atoms>  
 (opt. substd.)) / alkoxycarbonyl <containing 1-4 C>  
 (substd. by aryl <containing 6-12 C>) /  
 alkylamino <containing 1-4 C> (opt. substd.) /  
 dialkylamino <each alkyl containing 1-4 C> / OH /  
 alkoxy <containing 1-4 C> (opt. substd.) /  
 alkylsulfonyl (opt. substd.) / arylsulfonyl <containing 6-12  
 C> (opt. substd.) / CONH2  
 G30 = 6-5 8-9 / 142-5 152-9



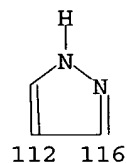
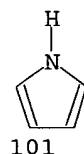
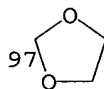
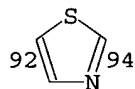
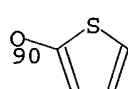
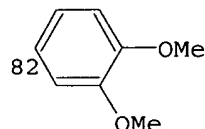
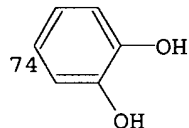
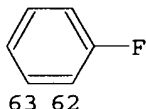
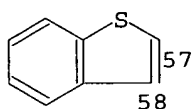
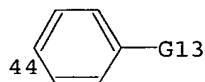
Derivative: or pharmaceutically acceptable salts  
 Patent location: claim 1

L71 ANSWER 133 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 116:107480 MARPAT  
 TITLE: Hindered phenolic N-(amido)-imides

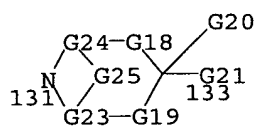
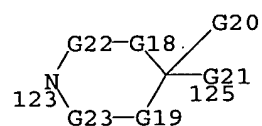
G10 = R <"amino acid side chain"> / 34 / 16 /  
 CH<sub>2</sub>C<sub>6</sub>H<sub>4</sub>OH-p / 23 / CH<sub>2</sub>CH<sub>2</sub>SMe / Bu-i / Bu-s / CH<sub>2</sub>CONH<sub>2</sub> /  
 CH<sub>2</sub>CO<sub>2</sub>H / CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub> / CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub> / Pr-i / Me / 36 /  
 CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>NHC(NH)NH<sub>2</sub> / 46 / cyclohexyl / Ph / Pr-n / Bu-n /  
 66



G11 = Ph / furyl / 44 / 2-pyridyl / 3-pyridyl /  
 cyclohexyl / naphthyl / 57 / 58 / 62 / 63 / SH / SMe / 74 /  
 82 / 90 / 94 / 92 / 97 / 101 / 109 / 112 / 116



G12 = S(O) / SO<sub>2</sub>  
 G13 = Cl / OBu-t / NO<sub>2</sub> / F  
 G14 = H / Me  
 G15 = Ph / thienyl  
 G16 = R <"mimic of the leucine-valine cleavage site of  
 angiotensin">  
 G17 = 123-140 125-2 / 131-140 133-2





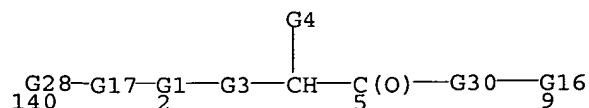
FAMILY ACC. NUM. COUNT: 2

## PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 483403	A1	19920506	EP 1990-120882	19901031
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
AU 9187309	A1	19920526	AU 1991-87309	19911023
PRIORITY APPLN. INFO.:				
			EP 1990-120882	19901031
			WO 1991-EP2011	19911023

AB Acyl amino acid amides R1XYCHR2CONR4CHR3COT [R1 = nitrogen-containing ring radicals I and II [RA and RB = H, C1-C21-alkyl, (un)substituted C3-20-cycloalkyl, (un)substituted C4-20-cycloalkylalkyl, (un)substituted C6-12-aryl, (un)substituted C6-12-aryl-C1-20-alkyl, etc.; RARBN = 4-8-membered heterocyclic ring; RA may be defined as above and RB = C1-4-alkylamino, di(C1-4-alkyl)amino, C1-4-alkoxy, etc.; RF has same meaning as RA and RB; RG = H, C1-8-alkyl, C3-8-cycloalkyl, (un)substituted C6-12-aryl, etc.; RC, RD, and RE = H, C1-6-alkyl; RDRE = C1-4-alkylene; h and i = 0, 1, 2, 3; k and l = 1, 2, 3, 4; Z = C1-6-alkylene]; R2 = H, C1-10-alkyl, C6-12-aryl, C6-12-aryl-C1-4-alkyl, hetaryl, etc.; R3 = amino acid side chain; R4 = H, C1-6-alkyl; X = CO, CS, SO2, SO; Y = O, S, (CH2)q(CRHRL)r (q = 0, 1, 2, 3; r = 0, 1, 2; RH and RL = H, C1-6-alkyl); T = mimic of Leu-Val cleavage site of angiotensinogen] were prepared as renin inhibitors. Thus, propionic acid derivative III (Boc = Me3CO2C) was coupled with histidine amide IV by DCC/1-hydroxybenzotriazole in the presence of N-ethylmorpholine in DMF to give the corresponding N $\alpha$ -acyl derivative, which was Boc-deblocked by CF3CO2H in CH2Cl2 to give histidine amide V.

## MSTR 1C



G1 = 10 / SO2 / S(O)



G2 = O / S

G3 = alkylene / O / S / bond

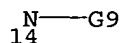
G4 = alkyl <containing 1-10 C> /  
 alkyl <containing 1-4 C> (substd. by 1 or more G5) /  
 alkyl <containing 1-4 C> (substd. by cycloalkyl <containing  
 3-8 C>) / alkyl <containing 1-4 C> (substd. by G6)

G5 = aryl &lt;containing 6-12 C&gt; (opt. substd. by (1-3) G7)

G6 = heteroaryl (opt. substd. by (1-3) G7)

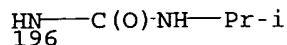
G7 = halo / OH / alkoxy <containing 1-4 C> / CF3 /  
 alkyl <containing 1-4 C>

G8 = NH / 14



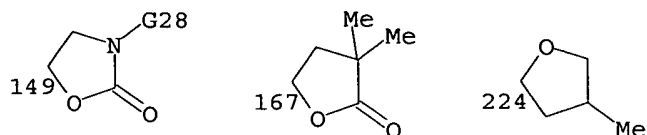
G9 = alkyl &lt;containing 1-6 C&gt;

G29 = morpholino / 196

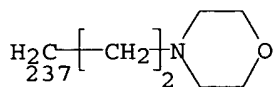


G30 = H / OH

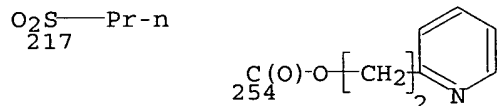
G31 = 149 / 167 / 224



G32 = Bu-n / 237

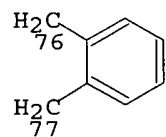


G33 = 217 / 254



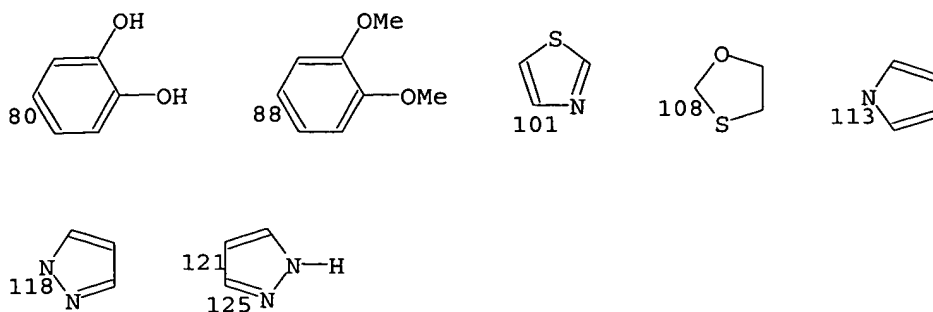
G34 = heterocycle <containing 1 heteroatom, 1 N,  
attached through 1 N, saturated, mono- or polycyclic>  
(opt. substd. by 1 or more alkyl <containing 1-6 C>)

G18+G24= 76-9 77-7

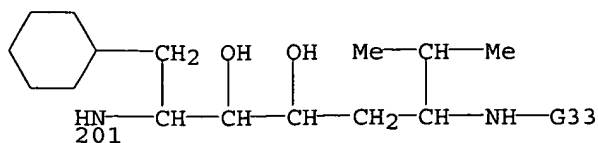
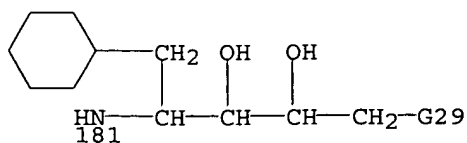
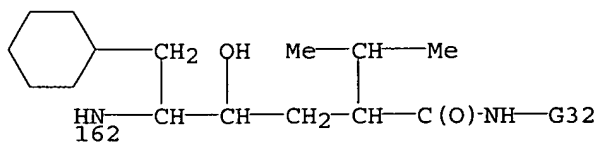
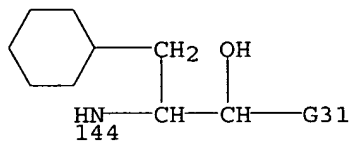
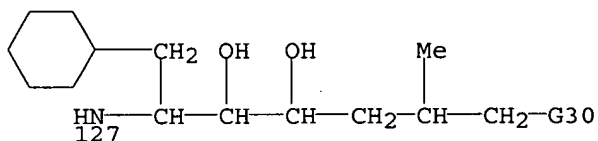


Derivative: or pharmaceutically acceptable salts  
Patent location: claim 1  
Note: additional ring formation allowed

L71 ANSWER 132 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 117:212970 MARPAT  
TITLE: Derivatives of amino acids as inhibitors of renin,  
methods for their preparation, medicaments containing  
them and their use  
INVENTOR(S): Henning, Rainer; Urbach, Hansjoerg; Ruppert, Dieter;  
Linz, Wolfgang  
PATENT ASSIGNEE(S): Hoechst A.-G., Germany  
SOURCE: Eur. Pat. Appl., 61 pp.  
CODEN: EPXXDW  
DOCUMENT TYPE: Patent  
LANGUAGE: English



G20 = H / OH / Cl / OBU-t / NO<sub>2</sub>  
 G21 = NH<sub>2</sub> / OH  
 G22 = SMe / NH<sub>2</sub> / S(O)Me / SO<sub>2</sub>Me / Ph  
 G23 = phenylene  
 G24 = H / alkyl <containing 1-6 C>  
 G25 = H / Me  
 G26 = H / alkyl <containing 1-8 C> /  
 cycloalkyl <containing 3-8 C> /  
 alkyl <containing 1-4 C> (substd. by cycloalkyl <containing  
 3-8 C>) / aryl <containing 6-12 C> (opt. substd.) /  
 aralkyl (opt. substd.)  
 G27 = R <"mimic of Leu-Val cleavage site of  
 angiotensinogen"> / (Examples: 127 / 144 / 181 / 201 / 162)



G28 = Et / OMe

alkyl <containing 1-17 C> (substd. by G6) /  
 aryl <containing 6-12 C> (opt. substd.) /  
 alkyl <containing 1-20 C> (substd. by G7) /  
 alkyl <containing 1-8 C> (substd. by G8) /  
 alkylcarbonyl <containing 1-18 C> (opt. substd.) /  
 alkylcarbonyl <containing 1-8 C> (substd. by G6) /  
 arylcarbonyl <containing 6-12 C> /  
 heteroarylcarbonyl <containing 5-12 C> (opt. substd.) /  
 alkylcarbonyl <containing 1-8 C> (substd. by G7) /  
 alkylcarbonyl <containing 1-8 C> (substd. by G8) /  
 alkoxycarbonyl <containing 1-4 C> (substd. by G7) /  
 alkylamino <containing 1-4 C> (opt. substd.) /  
 dialkylamino <each alkyl containing 1-4 C> (opt. substd.) /  
 OH / alkoxy <containing 1-4 C> (opt. substd.) /  
 alkylsulfonyl <containing 1-4 C> (opt. substd.) /  
 arylsulfonyl <containing 6-12 C> (opt. substd.) / CONH2

G11 = O / S

G13 = alkylene <containing 1-6 C>

G14 = H / alkyl <containing 1-10 C> /  
 aryl <containing 6-12 C> (opt. substd. by (1-4) G17) / 31 /  
 cycloalkyl <containing 3-8 C> /  
 heteroaryl (opt. substd. by (1-3) G17)

G15-G16  
 31

G15 = alkylene <containing 1-4 C>

G16 = aryl <containing 6-12 C>  
 (opt. substd. by (1-4) G17) / cycloalkyl <containing 3-8 C> /  
 heteroaryl (opt. substd. by (1-3) G17)

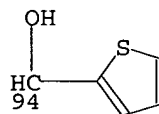
G17 = halo / OH / alkoxy <containing 1-4 C> / CF3 /  
 alkyl <containing 1-4 C>

G18 = R <"amino acid side chain"> / 33 / 56 / Bu-i /  
 Bu-s / 53 / CH2CH2CH2CH2NH2 / CH2CH2CH2NH2 / Pr-i /  
 CH2CH2CH2NHC(NH)NH2 / cyclohexyl / Ph / Pr-n / Bu-n / 94

H<sub>2</sub>C—G19  
 33

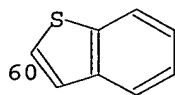
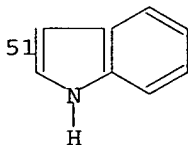
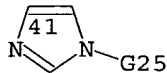
H<sub>2</sub>C—C(O)G21  
 53

H<sub>2</sub>C—CH<sub>2</sub>—G22  
 56



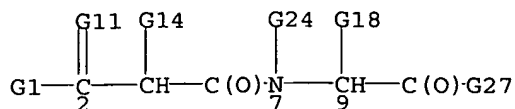
G19 = 35 / 41 / 51 / furyl / H / 2-pyridyl / 3-pyridyl /  
 cyclohexyl / naphthyl / 60 / 68 / SH / SMe / 80 / 88 /  
 thienyl / 101 / 108 / 113 / 118 / 121 / 125

p-C<sub>6</sub>H<sub>4</sub>G20  
 35

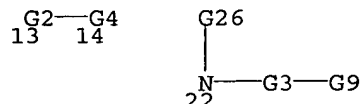


G23-F  
 68

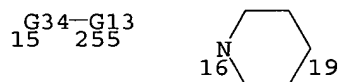
## MSTR 1D



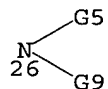
G1 = 13 / 22



G2 = heterocycle <containing 1 heteroatom, 1 N, attached through 1 N, saturated, mono- or polycyclic> (opt. substd. by 1 or more alkyl <containing 1-6 C>) / 15-2 255-14 / (Example: 16-2 19-14 )



G3 = heterocycle <containing 1 heteroatom, 1 N, attached through 1 N, saturated, mono- or polycyclic> (opt. substd. by 1 or more alkyl <containing 1-6 C>)  
 G4 = 26 / heterocycle <containing 1-2 heteroatoms, 1 N, zero or more O, zero or more S (no other heteroatoms), 4- to 8-membered monocyclic ring> / (Specifically claimed: piperidino / pyrrolidino / morpholino / piperazino / thiomorpholino)



G5 = H / alkyl <containing 1-21 C> (opt. substd.) / cycloalkyl <containing 3-20 C> (opt. substd.) / alkyl <containing 1-17 C> (substd. by G6) / aryl <containing 6-12 C> (opt. substd.) / alkyl <containing 1-20 C> (substd. by G7) / alkyl <containing 1-8 C> (substd. by G8) / alkylcarbonyl <containing 1-18 C> (opt. substd.) / alkylcarbonyl <containing 1-8 C> (substd. by G6) / arylcarbonyl <containing 6-12 C> / heteroarylcarbonyl <containing 5-12 C> (opt. substd.) / alkylcarbonyl <containing 1-8 C> (substd. by G7) / alkylcarbonyl <containing 1-8 C> (substd. by G8) / alkoxy carbonyl <containing 1-4 C> (substd. by G7)  
 G6 = cycloalkyl <containing 3-19 C> (opt. substd.) / R  
 G7 = aryl <containing 6-12 C> (opt. substd.) / R  
 G8 = heteroaryl <containing 5-12 C> (opt. substd.) / R  
 G9 = H / alkyl <containing 1-21 C> (opt. substd.) / cycloalkyl <containing 3-20 C> (opt. substd.) /

zero or more S (no other heteroatoms) > (opt. substd.)  
 G24 = NH / O / S  
 G25 = H / halo / OH / CN / NO2 / CF3 / CO2H / 78 /  
 tetrazolyl / isoxazolyl / 76

$\text{G26-G23} \quad \text{C(O)O-G4}$   
 $\text{76} \quad \text{77} \quad \text{78}$

G26 = C(O) / 81-70 82-77 / 83-70 84-77 / NH / O / S /  
 85-70 86-77

$\text{C(O)NH} \quad \text{HN-C(O)} \quad \text{G24-G9}$   
 $\text{81} \quad \text{82} \quad \text{83} \quad \text{84} \quad \text{85} \quad \text{86}$

G27 = carbon chain (opt. substd.)  
 Derivative: and salts and protected derivatives  
 Patent location: claim 8

L71 ANSWER 131 OF 137 MARPAT COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 117:234551 MARPAT  
 TITLE: histidine derivatives as inhibitors of renin, methods  
 for their preparation, pharmaceuticals containing them  
 and their use for the treatment of cardiac  
 insufficiency (congestive cardiac insufficiency) and  
 for the prophylaxis of HIV infections (HIV protease  
 inhibitors)  
 INVENTOR(S): Henning, Rainer; Urbach, Hansjoerg; Ruppert, Dieter;  
 Linz, Wolfgang  
 PATENT ASSIGNEE(S): Hoechst A.-G., Germany  
 SOURCE: PCT Int. Appl., 85 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9207845	A1	19920514	WO 1991-EP2011	19911023
W: AU, CA, FI, HU, JP, KR, NO, PL, SU, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE				
AU 9187309	A1	19920526	AU 1991-87309	19911023
PRIORITY APPLN. INFO.:				
			DE 1990-9012088	19901031
			EP 1990-120882	19901031
			WO 1991-EP2011	19911023

OTHER SOURCE(S): CASREACT 117:234551  
 AB Certain azacyclic acyl(aminoacyl)-substituted amino acid derivs. are  
 claimed; the compds. contain structural residues that mimic the Leu-Val  
 cleavage site of angiotensin. Said compds. are active as renin  
 (angiotensin) inhibitors (no data). Said compds. are useful as  
 antihypertensives and for the treatment of cardiac insufficiency  
 (congestive cardiac insufficiency) and for the prophylaxis of HIV  
 infections (HIV protease inhibitors) (no data). Treatment of  
 H-His-(2S,3R,4S)-1-cyclohexyl-3,4-dihydroxy-6-methyl-2-heptylamide with  
 3-[[[(4-BOCamino)-1-piperidiny]carbonyl]-2(R)-benzylpropionic acid gave  
 the histidine derivative I. The renin-inhibiting activity of I was not  
 tested.

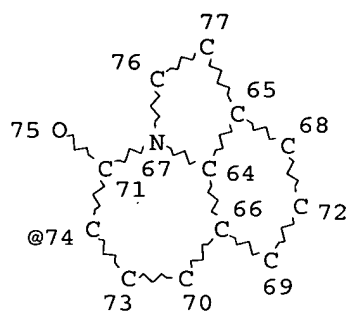
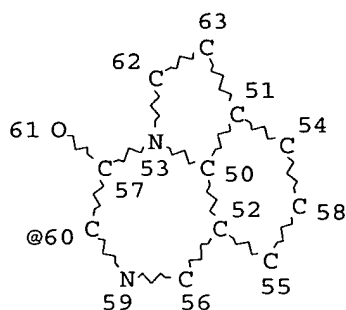
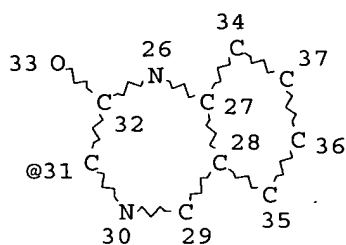
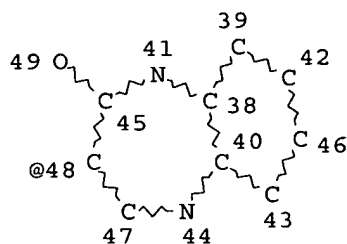
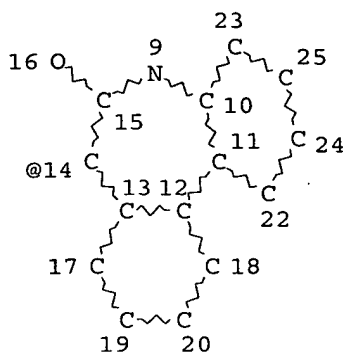
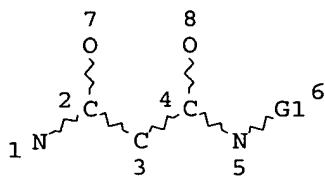
10/10

Ward 10/767-784

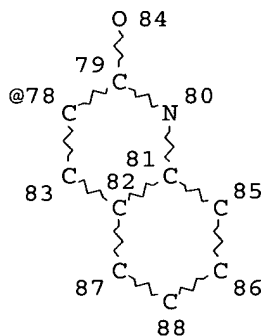
08/01/2006

=> d que stat 17

L5 STR



Page 1-A



Page 2-A

VAR G1=14/31/48/60/74/78

NODE ATTRIBUTES:

CONNECT IS E1 RC AT 7

CONNECT IS E1 RC AT 8

CONNECT IS E1 RC AT 16

CONNECT IS E1 RC AT 33

CONNECT IS E1 RC AT 49

CONNECT IS E1 RC AT 61

CONNECT IS E1 RC AT 75

CONNECT IS E1 RC AT 84

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 87

STEREO ATTRIBUTES: NONE  
L7 212 SEA FILE=REGISTRY SSS FUL L5

100.0% PROCESSED 575 ITERATIONS 212 ANSWERS  
SEARCH TIME: 00.00.01

=> d his ful

(FILE 'HOME' ENTERED AT 15:39:56 ON 31 JUL 2006)

FILE 'ZCAPLUS' ENTERED AT 15:40:09 ON 31 JUL 2006  
E US2004-767784/APPS

L1 FILE 'HCAPLUS' ENTERED AT 15:40:33 ON 31 JUL 2006  
1 SEA ABB=ON PLU=ON US2004-767784/APPS  
SAVE TEMP L1 WAR784HCAAPP/A

FILE 'STNGUIDE' ENTERED AT 15:40:47 ON 31 JUL 2006

FILE 'HCAPLUS' ENTERED AT 15:40:51 ON 31 JUL 2006  
D IBIB ED AB IND

FILE 'STNGUIDE' ENTERED AT 15:40:51 ON 31 JUL 2006

L2 FILE 'WPIX' ENTERED AT 15:41:43 ON 31 JUL 2006  
1 SEA ABB=ON PLU=ON US2004-767784/APPS  
SAVE TEMP L2 WAR784REGAPP/A  
DEL WAR784REGAPP/A  
SAVE TEMP L2 WAR784WPIAPP/A  
D IALL CODE

FILE 'STNGUIDE' ENTERED AT 15:42:39 ON 31 JUL 2006

FILE 'REGISTRY' ENTERED AT 15:43:11 ON 31 JUL 2006

L3 FILE 'HCAPLUS' ENTERED AT 15:43:15 ON 31 JUL 2006  
TRA PLU=ON L1 1- RN : 359 TERMS

L4 FILE 'REGISTRY' ENTERED AT 15:43:18 ON 31 JUL 2006  
359 SEA ABB=ON PLU=ON L3  
SAVE TEMP L4 WAR784REGAPP/A

FILE 'STNGUIDE' ENTERED AT 15:44:22 ON 31 JUL 2006  
D SAVED

L5 FILE 'LREGISTRY' ENTERED AT 15:44:49 ON 31 JUL 2006  
STR

L6 FILE 'REGISTRY' ENTERED AT 16:03:04 ON 31 JUL 2006  
6 SEA SSS SAM L5  
D SCAN

FILE 'STNGUIDE' ENTERED AT 16:03:56 ON 31 JUL 2006  
D QUE STAT



L7 FILE 'REGISTRY' ENTERED AT 16:08:14 ON 31 JUL 2006  
212 SEA SSS FUL L5  
SAVE TEMP L7 WAR784PSET1/A

FILE 'STNGUIDE' ENTERED AT 16:08:39 ON 31 JUL 2006  
D SAVED

L8 FILE 'REGISTRY' ENTERED AT 16:09:46 ON 31 JUL 2006  
270 SEA ABB=ON PLU=ON L4 NOT L7  
D SCAN

FILE 'STNGUIDE' ENTERED AT 16:11:44 ON 31 JUL 2006  
D QUE STAT L7

FILE HOME

FILE ZCAPLUS

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FILE STNGUIDE  
FILE CONTAINS CURRENT INFORMATION.  
LAST RELOADED: Jul 28, 2006 (20060728/UP).

## FILE WPIX

FILE LAST UPDATED: 27 JUL 2006 <20060727/UP>  
MOST RECENT DERWENT UPDATE: 200648 <200648/DW>  
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> FOR A COPY OF THE DERWENT WORLD PATENTS INDEX STN USER GUIDE,  
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[http://www.stn-international.de/training\\_center/patents/stn\\_guide.pdf](http://www.stn-international.de/training_center/patents/stn_guide.pdf) <

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<http://scientific.thomson.com/support/patents/coverage/latestupdates/>

>>> PLEASE BE AWARE OF THE NEW IPC REFORM IN 2006, SEE  
[http://www.stn-international.de/stndatabases/details/ipc\\_reform.html](http://www.stn-international.de/stndatabases/details/ipc_reform.html) and  
<http://scientific.thomson.com/media/scpdf/ipcrdwpf.pdf> <<<

>>> FOR FURTHER DETAILS ON THE FORTHCOMING DERWENT WORLD PATENTS  
INDEX ENHANCEMENTS PLEASE VISIT:  
[http://www.stn-international.de/stndatabases/details/dwpi\\_r.html](http://www.stn-international.de/stndatabases/details/dwpi_r.html) <<<

## FILE REGISTRY

Property values tagged with IC are from the ZIC/VINITI data file  
provided by InfoChem.

STRUCTURE FILE UPDATES: 30 JUL 2006 HIGHEST RN 897385-07-8  
DICTIONARY FILE UPDATES: 30 JUL 2006 HIGHEST RN 897385-07-8

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 6, 2006

Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and  
predicted properties as well as tags indicating availability of  
experimental property data in the original document. For information  
on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

## FILE LREGISTRY

LREGISTRY IS A STATIC LEARNING FILE

NEW CAS INFORMATION USE POLICIES, ENTER HELP USAGETERMS FOR DETAILS.

=> => d his ful

(FILE 'HOME' ENTERED AT 09:53:57 ON 01 AUG 2006)

FILE 'HCAPLUS' ENTERED AT 09:54:14 ON 01 AUG 2006  
ACT WAR784HCAAPP/A

L1 1 SEA ABB=ON PLU=ON US2004-767784/APPS

FILE 'STNGUIDE' ENTERED AT 09:54:24 ON 01 AUG 2006

FILE 'WPIX' ENTERED AT 09:54:32 ON 01 AUG 2006

ACT WAR784WPIAPP/A

L2 1 SEA ABB=ON PLU=ON US2004-767784/APPS

FILE 'REGISTRY' ENTERED AT 09:54:46 ON 01 AUG 2006  
ACT WAR784REGAPP/A

L3 ( 1)SEA ABB=ON PLU=ON US2004-767784/APPS  
L4 SEL PLU=ON L3 1- RN : 359 TERMS  
L5 359 SEA ABB=ON PLU=ON L4

ACT WAR784PSET1/A

L6 STR  
L7 212 SEA SSS FUL L6

FILE 'STNGUIDE' ENTERED AT 09:55:13 ON 01 AUG 2006

FILE 'REGISTRY' ENTERED AT 09:56:42 ON 01 AUG 2006  
L8 89 SEA ABB=ON PLU=ON L5 AND L7  
L9 ANALYZE PLU=ON L7 1- LC : 3 TERMS  
D 1-3

FILE 'HCAPLUS' ENTERED AT 09:57:57 ON 01 AUG 2006  
L10 2 SEA ABB=ON PLU=ON L7

FILE 'STNGUIDE' ENTERED AT 09:58:20 ON 01 AUG 2006

FILE 'ZCAPLUS' ENTERED AT 09:59:46 ON 01 AUG 2006  
L11 QUE ABB=ON PLU=ON GALLEY, G?/AU  
L12 QUE ABB=ON PLU=ON GOERGLER, A?/AU  
L13 QUE ABB=ON PLU=ON JACOBSEN, H?/AU  
L14 QUE ABB=ON PLU=ON KITAS, E?/AU  
L15 QUE ABB=ON PLU=ON ARGIRIOS, E?/AU  
L16 QUE ABB=ON PLU=ON PETERS, J?/AU  
L17 QUE ABB=ON PLU=ON PETERS, U?/AU  
L18 QUE ABB=ON PLU=ON (HOFFMAN OR (LA(W) ROCHE) OR LAROCHE)/PA,CS,  
SO  
L19 QUE ABB=ON PLU=ON AY<2004 OR PY<2004 OR PRY<2004 OR MY<2004  
OR REVIEW/DT  
L20 QUE ABB=ON PLU=ON AY<2004 OR PY<2004 OR PRY<2004

FILE 'STNGUIDE' ENTERED AT 10:02:20 ON 01 AUG 2006  
D QUE STAT L7

FILE 'HCAPLUS' ENTERED AT 10:08:51 ON 01 AUG 2006  
D IBIB L10 1-2

FILE 'STNGUIDE' ENTERED AT 10:08:52 ON 01 AUG 2006

FILE 'REGISTRY' ENTERED AT 10:09:42 ON 01 AUG 2006  
L21 28 SEA ABB=ON PLU=ON L8 AND F=2  
D SCAN

FILE 'STNGUIDE' ENTERED AT 10:10:27 ON 01 AUG 2006

FILE 'REGISTRY' ENTERED AT 10:12:11 ON 01 AUG 2006  
L22 1 SEA ABB=ON PLU=ON L21 AND C28H26F2N4O4/MF

SAVE TEMP L22 WAR784ES/A

FILE 'STNGUIDE' ENTERED AT 10:12:51 ON 01 AUG 2006  
D QUE STAT L22

FILE 'REGISTRY' ENTERED AT 10:14:24 ON 01 AUG 2006  
D IDE L22

FILE 'STNGUIDE' ENTERED AT 10:14:25 ON 01 AUG 2006

FILE 'STNGUIDE' ENTERED AT 10:14:34 ON 01 AUG 2006

FILE 'BEILSTEIN' ENTERED AT 10:15:27 ON 01 AUG 2006  
D QUE L7

L23 0 SEA SSS FUL L6  
SAVE TEMP L23 WAR784BEIP/A

FILE 'STNGUIDE' ENTERED AT 10:16:06 ON 01 AUG 2006

L24 FILE 'ZCAPLUS' ENTERED AT 10:17:46 ON 01 AUG 2006

L25 QUE ABB=ON PLU=ON ?AZEPIN?

QUE ABB=ON PLU=ON ?MALON?

L26 FILE 'HCAPLUS' ENTERED AT 10:20:01 ON 01 AUG 2006  
3153 SEA ABB=ON PLU=ON (L11 OR L12 OR L13 OR L14 OR L15 OR L16 OR  
L17)

L27 34 SEA ABB=ON PLU=ON L26 AND (L24 OR L25)

L28 2 SEA ABB=ON PLU=ON L27 AND ?MALONAMID?

FILE 'STNGUIDE' ENTERED AT 10:20:57 ON 01 AUG 2006

L29 FILE 'HCAPLUS' ENTERED AT 10:21:35 ON 01 AUG 2006

10 SEA ABB=ON PLU=ON L27 AND L18

L30 31 SEA ABB=ON PLU=ON (L27 OR L28 OR L29) AND L19

L31 17 SEA ABB=ON PLU=ON (L27 OR L28 OR L29) AND (PHARM?/SC,SX)

L32 0 SEA ABB=ON PLU=ON L1 NOT L31

FILE 'STNGUIDE' ENTERED AT 10:23:14 ON 01 AUG 2006

FILE 'HCAPLUS' ENTERED AT 10:23:30 ON 01 AUG 2006

SAVE TEMP L31 WAR784HCAINV/A

L33 1 SEA ABB=ON PLU=ON L1 AND L31

FILE 'STNGUIDE' ENTERED AT 10:23:52 ON 01 AUG 2006

FILE 'HCAPLUS, USPATFULL, USPAT2' ENTERED AT 10:25:07 ON 01 AUG 2006

L34 4 SEA ABB=ON PLU=ON L7

SAVE TEMP L34 WAR784MULS/A

FILE 'STNGUIDE' ENTERED AT 10:25:33 ON 01 AUG 2006  
D SAVED

FILE 'CHEMINFORMRX' ENTERED AT 10:26:23 ON 01 AUG 2006  
D QUE L7

L35 0 SEA SSS SAM L6 ( 0 REACTIONS)

D QUE STAT

L36 0 SEA SSS FUL L6 ( 0 REACTIONS)

SAVE TEMP L36 WAR784CHM/A

FILE 'STNGUIDE' ENTERED AT 10:27:18 ON 01 AUG 2006

FILE 'LWPI' ENTERED AT 10:28:15 ON 01 AUG 2006

E B06-H/MC  
E E3+ALL  
E B14-D07C/MC  
E E17+ALL  
E B14-J01A4/MC  
E E35+ALL

FILE 'STNGUIDE' ENTERED AT 10:29:10 ON 01 AUG 2006

FILE 'ZCAPLUS' ENTERED AT 10:31:00 ON 01 AUG 2006

L37 QUE ABB=ON PLU=ON ?HYDROQUINOLIN? OR TETRAHYDROQUINOLIN? OR  
((HYDRO OR TETRAHYDRO) (2A)QUINOLIN?)

FILE 'STNGUIDE' ENTERED AT 10:31:55 ON 01 AUG 2006

FILE 'HCAPLUS' ENTERED AT 10:32:31 ON 01 AUG 2006

L38 0 SEA ABB=ON PLU=ON L26 AND L37  
D QUE

L39 17 SEA ABB=ON PLU=ON L38 OR L31  
SAVE TEMP L39 WAR784HCAINV/A

FILE 'STNGUIDE' ENTERED AT 10:33:27 ON 01 AUG 2006

D SAVED

FILE 'WPIX' ENTERED AT 11:24:40 ON 01 AUG 2006

FILE 'ZCAPLUS' ENTERED AT 11:24:44 ON 01 AUG 2006

L40 QUE ABB=ON PLU=ON ?MALONAMID? OR ?MALONODIAMID? OR ?PROPANEDI  
AMID? OR ((?MALON OR ?PROPAN? OR ?PROPYL? OR ?PROPANYL?) (1A) (DI  
AMID? OR (DI(W)AMID?)))

L41 QUE ABB=ON PLU=ON ?MALONIC (2A) (AMID? OR DIAMID?)

L42 QUE ABB=ON PLU=ON (A61K031-47 OR A61K031-4704)/IPC

L43 QUE ABB=ON PLU=ON (A61K031-55 OR A61K031-551 OR A61K031-5513)  
/IPC

L44 QUE ABB=ON PLU=ON (C07C231-00 OR C07C231-02)/IPC

FILE 'LWPI' ENTERED AT 11:30:22 ON 01 AUG 2006

L45 QUE ABB=ON PLU=ON (D622 (P) J372)/M0,M1,M2,M3,M4,M5,M6

L46 QUE ABB=ON PLU=ON (D780 (P) J372)/M0,M1,M2,M3,M4,M5,M6

FILE 'WPIX' ENTERED AT 11:32:09 ON 01 AUG 2006

D QUE L7

L47 14 SEA SSS SAM L6

L48 82 SEA SSS FUL L6

SAVE TEMP L48 WAR784WPIS/A

L49 2 SEA ABB=ON PLU=ON L48/DCR

SELECT L48 1- SDCN

L50 2 SEA ABB=ON PLU=ON (RAF7SZ/DCN OR RAF81C/DCN OR RAF81D/DCN OR  
RAF81E/DCN OR RAF81F/DCN OR RAF81G/DCN OR RAF81K/DCN OR  
RAF81L/DCN OR RAF81M/DCN OR RAF81N/DCN OR RAF81O/DCN OR  
RAF81P/DCN OR RAF81Q/DCN OR RAF81R/DCN OR RAF81S/DCN OR  
RAF81T/DCN OR RAF81V/DCN OR RAF81W/DCN OR RAF81X/DCN OR  
RAF81Y/DCN OR RAF81Z/DCN OR RAF820/DCN OR RAF821/DCN OR  
RAF822/DCN OR RAF823/DCN OR RAF824/DCN OR RAF825/DCN OR  
RAF826/DCN OR RAF827/DCN OR RAH9NA/DCN OR RAH9NB/DCN OR  
RAH9ND/DCN OR RAH9NE/DCN OR RAH9NG/DCN OR RAH9NH/DCN OR  
RAH9NI/DCN OR RAH9NK/DCN OR RAH9NM/DCN OR RAH9NO/DCN OR  
RAH9NP/DCN OR RAH9NR/DCN OR RAH9NS/DCN OR RAH9NT/DCN OR

RAH9NV/DCN OR RAH9NW/DCN OR RAH9NY/DCN OR RAH9NZ/DCN OR  
 RAH9N6/DCN OR RAH9N8/DCN OR RAH9N9/DCN OR RAH9OA/DCN OR  
 RAH9OB/DCN OR RAH9OD/DCN OR RAH9OE/DCN OR RAH9OG/DCN OR  
 RAH9OH/DCN OR RAH9OI/DCN OR RAH9OK/DCN OR RAH9OM/DCN OR  
 RAH9ON/DCN OR RAH9OP/DCN OR RAH9OQ/DCN OR RAH9OR/DCN OR  
 RAH9OT/DCN OR RAH9OV/DCN OR RAH9OX/DCN OR RAH9OY/DCN OR  
 RAH9OZ/DCN OR RAH9O1/DCN OR RAH9O3/DCN OR RAH9O5/DCN OR  
 RAH9O6/DCN OR RAH9O8/DCN OR RAH9PB/DCN OR RAH9PC/DCN OR  
 RAH9PD/DCN OR RAH9PF/DCN OR RAH9P1/DCN OR RAH9P3/DCN OR  
 RAH9P7/DCN OR RAH9P8/DCN OR RAH9P9/DCN)

L51 2 SEA ABB=ON PLU=ON L49 OR L50  
 L52 3816 SEA ABB=ON PLU=ON L45 OR L46  
 L53 18061 SEA ABB=ON PLU=ON L42 OR L43  
 L54 59 SEA ABB=ON PLU=ON L53 AND L44  
 L55 9 SEA ABB=ON PLU=ON (L52 OR L54) AND ((?MALONAMID?/BIX OR  
 ?MALONODIAMID?/BIX OR ?PROPANEDIAMID?/BIX OR ((?MALON/BIX OR  
 ?PROPAN?/BIX OR ?PROPYL?/BIX OR ?PROPANYL?/BIX) (1A) (DIAMID?/BIX  
 OR (DI/BIX(W)AMID?/BIX)))) OR (?MALONIC/BIX (2A) (AMID?/BIX OR  
 DIAMID?/BIX)))  
 D TRI 1-9

FILE 'STNGUIDE' ENTERED AT 11:39:04 ON 01 AUG 2006

FILE 'WPIX' ENTERED AT 11:39:48 ON 01 AUG 2006

L56 29 SEA ABB=ON PLU=ON (L52 OR L54) AND (?MALON?/BIX)  
 L57 13 SEA ABB=ON PLU=ON (L55 OR L56) AND ((?HYDROQUINOLIN?/BIX OR  
 TETRAHYDROQUINOLIN?/BIX OR ((HYDRO/BIX OR TETRAHYDRO/BIX) (2A) QU  
 INOLIN?/BIX)) OR ?QUINOLIN?/BIX OR (?AZEPIN?/BIX))  
 L58 13 SEA ABB=ON PLU=ON L57 OR L51  
 D TRI 1-5  
 D TRI 6-10  
 D BIB 1-6  
 L59 12 SEA ABB=ON PLU=ON L58 NOT (2005-253920)/AN  
 SAVE TEMP L59 WAR784WPI1B/A  
 L60 526 SEA ABB=ON PLU=ON (L11 OR L12 OR L13 OR L14 OR L15 OR L16 OR  
 L17)  
 L61 11 SEA ABB=ON PLU=ON L60 AND (L42 OR L43 OR L45 OR L46)  
 L62 2 SEA ABB=ON PLU=ON L60 AND L51  
 L63 11 SEA ABB=ON PLU=ON L61 OR L62  
 SAVE TEMP L63 WAR784WPIINV/A  
 L64 10 SEA ABB=ON PLU=ON L59 NOT L63  
 D TRI 1-10

FILE 'STNGUIDE' ENTERED AT 11:46:22 ON 01 AUG 2006

FILE 'LREGISTRY' ENTERED AT 11:46:43 ON 01 AUG 2006

L65 STR L6

FILE 'MARPAT' ENTERED AT 11:55:18 ON 01 AUG 2006

L66 4 SEA SSS SAM L65  
 D SCAN

FILE 'LREGISTRY' ENTERED AT 11:57:37 ON 01 AUG 2006

L67 STR L65

FILE 'MARPAT' ENTERED AT 12:00:53 ON 01 AUG 2006

L68 4 SEA SSS SAM L67  
 D SCAN  
 D QUE STAT L66  
 L69 169 SEA SSS FUL L65

SAVE TEMP L69 WAR784MARP/A  
L70 9 SEA SUB=L69 SSS SAM L67  
D QUE STAT  
L71 137 SEA SUB=L69 SSS FUL L67  
SAVE TEMP L71 WAR784MARR/A  
L72 0 SEA ABB=ON PLU=ON L71 AND ((?AZEPIN?/BI) OR (?HYDROQUINOLIN?/  
BI OR TETRAHYDROQUINOLIN?/BI OR ((HYDRO/BI OR TETRAHYDRO/BI) (2A  
)QUINOLIN?/BI)))

FILE 'STNGUIDE' ENTERED AT 12:07:16 ON 01 AUG 2006  
D SAVED

FILE 'MEDLINE' ENTERED AT 12:11:36 ON 01 AUG 2006  
L73 3156 SEA ABB=ON PLU=ON (L11 OR L12 OR L13 OR L14 OR L15 OR L16 OR  
L17)  
L74 9 SEA ABB=ON PLU=ON L73 AND (L24 OR L37)  
L75 0 SEA ABB=ON PLU=ON L74 AND L25  
L76 9 SEA ABB=ON PLU=ON L74 OR L75  
D TRI 1-9  
L77 QUE ABB=ON PLU=ON BENZAZEPINES+PFT,OLD,NT/CT  
L78 QUE ABB=ON PLU=ON BENZODIAZEPINES+PFT,OLD,NT/CT  
L79 10 SEA ABB=ON PLU=ON (L24 OR L37) (2A) L25  
L80 18 SEA ABB=ON PLU=ON (L24 OR L37) (7A) L25

FILE 'STNGUIDE' ENTERED AT 12:15:32 ON 01 AUG 2006

FILE 'MEDLINE' ENTERED AT 12:16:57 ON 01 AUG 2006  
L81 18 SEA ABB=ON PLU=ON L80 AND L19  
D TI KWIC 1-18  
L82 4 SEA ABB=ON PLU=ON L81 NOT (?CHROMAT? OR HPLC OR KINETIC? OR  
BLISTER OR IRRITANT)/TI  
D TRI 1-4  
SAVE TEMP L82 WAR784MED1B/A  
SAVE TEMP L76 WAR784MEDINV/A

FILE 'STNGUIDE' ENTERED AT 12:22:33 ON 01 AUG 2006

FILE 'EMBASE' ENTERED AT 12:22:49 ON 01 AUG 2006  
L83 2615 SEA ABB=ON PLU=ON (L11 OR L12 OR L13 OR L14 OR L15 OR L16 OR  
L17)  
L84 15 SEA ABB=ON PLU=ON L83 AND (L24 OR L37)  
L85 0 SEA ABB=ON PLU=ON L84 AND L25  
L86 15 SEA ABB=ON PLU=ON (L84 OR L85)  
D TRI 1-15

FILE 'STNGUIDE' ENTERED AT 12:23:43 ON 01 AUG 2006

FILE 'EMBASE' ENTERED AT 12:24:45 ON 01 AUG 2006  
SAVE TEMP L86 WAR784EMBINV/A  
L87 26 SEA ABB=ON PLU=ON (L24 OR L37) (7A) (L25 OR L40 OR L41)  
L88 26 SEA ABB=ON PLU=ON L87 AND L19  
D TRI 1-26

FILE 'STNGUIDE' ENTERED AT 12:25:51 ON 01 AUG 2006

FILE 'EMBASE' ENTERED AT 12:28:06 ON 01 AUG 2006  
L89 5 SEA ABB=ON PLU=ON L88 NOT (CHROMATOG? OR HPLC OR KINETIC? OR  
BLISTER OR IRRITANT? OR MONITOR?)/TI  
SAVE TEMP L89 WAR784EMB1B/A

FILE 'STNGUIDE' ENTERED AT 12:28:36 ON 01 AUG 2006  
D SAVED

FILE 'BIOSIS, PASCAL, JICST-EPLUS, JAPIO, LIFESCI, BIOENG, CABA,  
BIOTECHNO, BIOTECHDS, DRUGU, DRUGB, VETU, VETB, SCISEARCH, CONFSCI,  
DISSABS' ENTERED AT 12:29:41 ON 01 AUG 2006

L90 14087 SEA ABB=ON PLU=ON (L11 OR L12 OR L13 OR L14 OR L15 OR L16 OR  
L17)  
L91 21 SEA ABB=ON PLU=ON L90 AND (L24 OR L37)  
L92 0 SEA ABB=ON PLU=ON L91 AND (L25 OR L40 OR L41)  
L93 21 SEA ABB=ON PLU=ON L91 OR L92  
D SCAN  
SAVE TEMP L93 WAR784MULINV/A  
L94 308 SEA ABB=ON PLU=ON (L24 OR ?DIAZEPIN? OR L37) (7A) (L37 OR L40  
OR L41)  
L95 21 SEA ABB=ON PLU=ON L94 AND (L40/TI,IT,CC,CT,ST,STP OR  
L41/TI,IT,CC,CT,ST,STP)  
L96 25 SEA ABB=ON PLU=ON L94 AND (L40 OR L41)  
L97 7 SEA ABB=ON PLU=ON L96 NOT (CHROMATOG? OR HPLC)/TI  
D BIB 1-7  
SAVE TEMP L97 WAR784MUL1B/A  
D SAVED

FILE 'STNGUIDE' ENTERED AT 12:43:37 ON 01 AUG 2006

D QUE STAT L7  
D QUE STAT L23  
D QUE NOS L9  
D L9 1-3  
D QUE STAT L23  
D QUE STAT L36  
D QUE STAT L34  
D QUE STAT L48  
D QUE NOS L59  
D QUE STAT L82  
D QUE STAT L89  
D QUE STAT L97

FILE 'HCAPLUS, USPATFULL, WPIX, MEDLINE, EMBASE, BIOSIS, SCISEARCH'  
ENTERED AT 12:47:00 ON 01 AUG 2006

L98 25 DUP REM L34 L59 L82 L89 L97 (7 DUPLICATES REMOVED)  
ANSWERS '1-2' FROM FILE HCAPLUS  
ANSWER '3' FROM FILE USPATFULL  
ANSWERS '4-13' FROM FILE WPIX  
ANSWERS '14-17' FROM FILE MEDLINE  
ANSWERS '18-20' FROM FILE EMBASE  
ANSWERS '21-25' FROM FILE BIOSIS

FILE 'STNGUIDE' ENTERED AT 12:47:06 ON 01 AUG 2006

FILE 'STNGUIDE' ENTERED AT 12:47:37 ON 01 AUG 2006

FILE 'HCAPLUS, USPATFULL, WPIX, MEDLINE, EMBASE, BIOSIS' ENTERED AT  
12:47:46 ON 01 AUG 2006

D IBIB ED AB HITSTR RETABLE 1-2

FILE 'STNGUIDE' ENTERED AT 12:48:00 ON 01 AUG 2006

FILE 'HCAPLUS, USPATFULL, WPIX, MEDLINE, EMBASE, BIOSIS' ENTERED AT  
12:48:34 ON 01 AUG 2006

D IBIB AB HITSTR 3



FILE 'STNGUIDE' ENTERED AT 12:48:38 ON 01 AUG 2006

FILE 'HCAPLUS, USPATFULL, WPIX, MEDLINE, EMBASE, BIOSIS' ENTERED AT  
12:49:12 ON 01 AUG 2006

D IALL ABEQ TECH ABEX HITSTR 4-13

FILE 'STNGUIDE' ENTERED AT 12:49:20 ON 01 AUG 2006

FILE 'HCAPLUS, USPATFULL, WPIX, MEDLINE, EMBASE, BIOSIS' ENTERED AT  
12:50:10 ON 01 AUG 2006

D IBIB ED AB IND 14-25

FILE 'STNGUIDE' ENTERED AT 12:50:12 ON 01 AUG 2006

D QUE L39

D QUE L63

D QUE L76

D QUE L86

D QUE L93

FILE 'HCAPLUS, WPIX, MEDLINE, EMBASE, BIOSIS, PASCAL, BIOTECHNO,  
SCISEARCH' ENTERED AT 12:51:47 ON 01 AUG 2006

L99 46 DUP REM L39 L63 L76 L86 L93 (27 DUPLICATES REMOVED)

ANSWERS '1-17' FROM FILE HCAPLUS

ANSWERS '18-22' FROM FILE WPIX

ANSWERS '23-28' FROM FILE MEDLINE

ANSWERS '29-38' FROM FILE EMBASE

ANSWERS '39-41' FROM FILE BIOSIS

ANSWERS '42-43' FROM FILE PASCAL

ANSWERS '44-46' FROM FILE SCISEARCH

FILE 'STNGUIDE' ENTERED AT 12:52:00 ON 01 AUG 2006

FILE 'HCAPLUS, WPIX, MEDLINE, EMBASE, BIOSIS, PASCAL, SCISEARCH' ENTERED  
AT 12:52:08 ON 01 AUG 2006

D IBIB ED AB 1-46

FILE 'STNGUIDE' ENTERED AT 12:52:15 ON 01 AUG 2006

D QUE STAT L69

D QUE STAT L71

FILE 'MARPAT' ENTERED AT 12:53:19 ON 01 AUG 2006

D IBIB ED AB FHIT L71

FILE 'STNGUIDE' ENTERED AT 12:53:32 ON 01 AUG 2006

FILE 'MARPAT' ENTERED AT 12:54:07 ON 01 AUG 2006

D ED AB FHIT L71 2-137

FILE 'STNGUIDE' ENTERED AT 13:01:22 ON 01 AUG 2006

FILE 'STNGUIDE' ENTERED AT 13:01:36 ON 01 AUG 2006

FILE HOME

FILE HCAPLUS

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FILE COVERS 1907 - 1 Aug 2006 VOL 145 ISS 6  
FILE LAST UPDATED: 31 Jul 2006 (20060731/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE STNGUIDE  
FILE CONTAINS CURRENT INFORMATION.  
LAST RELOADED: Jul 28, 2006 (20060728/UP).

FILE WPIX  
FILE LAST UPDATED: 27 JUL 2006 <20060727/UP>  
MOST RECENT DERWENT UPDATE: 200648 <200648/DW>  
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> FOR A COPY OF THE DERWENT WORLD PATENTS INDEX STN USER GUIDE,  
PLEASE VISIT:  
[http://www.stn-international.de/training\\_center/patents/stn\\_guide.pdf](http://www.stn-international.de/training_center/patents/stn_guide.pdf) <

>>> FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES, SEE  
<http://scientific.thomson.com/support/patents/coverage/latestupdates/>

>>> PLEASE BE AWARE OF THE NEW IPC REFORM IN 2006, SEE  
[http://www.stn-international.de/stdatabases/details/ipc\\_reform.html](http://www.stn-international.de/stdatabases/details/ipc_reform.html) and  
<http://scientific.thomson.com/media/scpdf/ipcrdwpf.pdf> <<<

>>> FOR FURTHER DETAILS ON THE FORTHCOMING DERWENT WORLD PATENTS  
INDEX ENHANCEMENTS PLEASE VISIT:  
[http://www.stn-international.de/stdatabases/details/dwpi\\_r.html](http://www.stn-international.de/stdatabases/details/dwpi_r.html) <<<

FILE REGISTRY  
Property values tagged with IC are from the ZIC/VINITI data file  
provided by InfoChem.

STRUCTURE FILE UPDATES: 31 JUL 2006 HIGHEST RN 897652-33-4  
DICTIONARY FILE UPDATES: 31 JUL 2006 HIGHEST RN 897652-33-4

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 6, 2006

Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and  
predicted properties as well as tags indicating availability of  
experimental property data in the original document. For information  
on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

## FILE ZCAPLUS

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FILE COVERS 1907 - 1 Aug 2006 VOL 145 ISS 6  
FILE LAST UPDATED: 31 Jul 2006 (20060731/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE BEILSTEIN  
FILE LAST UPDATED ON JUNE 16, 2006

FILE COVERS 1771 TO 2006.

**FILE CONTAINS 9,606,495 SUBSTANCES**

>>>PLEASE NOTE: Reaction Data and substance data are stored in separate documents and can not be searched together in one query. Reaction data for BEILSTEIN compounds may be displayed immediately with the display codes PRE (preparations) and REA (reactions). A substance answer set retrieved after the search for a chemical name, a compounds with available reaction information by combining with PRE/FA, REA/FA or more generally with RX/FA. The BEILSTEIN Registry Number (BRN) is the link between a BEILSTEIN compound and belonging reactions. For more detailed reaction searches BRNs can be searched as reaction partner BRNs Reactant BRN (RX.RBRN) or Product BRN (RX.PBRN).<<<

>>> FOR SEARCHING PREPARATIONS SEE HELP PRE <<<

\*\*\*\*\*  
\* PLEASE NOTE THAT THERE ARE NO FORMATS FREE OF COST. \*  
\* SET NOTICE FEATURE: THE COST ESTIMATES CALCULATED FOR SET NOTICE \*  
\* ARE BASED ON THE HIGHEST PRICE CATEGORY. THEREFORE; THESE \*  
\* ESTIMATES MAY NOT REFLECT THE ACTUAL COSTS. \*  
\* FOR PRICE INFORMATION SEE HELP COST \*  
\*\*\*\*\*

**NEW**

\* PATENT NUMBERS (PN) AND BABS ACCESSION NUMBERS (BABSAN) CAN NOW BE SEARCHED, SELECTED AND TRANSFERRED.  
\* NEW DISPLAY FORMATS ALLREF, ALLP AND BABSAN SHOW ALL REFERENCES, ALL PATENT REFERENCES, OR ALL BABS ACCESSION NUMBERS FOR A COMPOUND AT A GLANCE.

FILE USPATFULL  
FILE COVERS 1971 TO PATENT PUBLICATION DATE: 1 Aug 2006 (20060801/PD)  
FILE LAST UPDATED: 1 Aug 2006 (20060801/ED)  
HIGHEST GRANTED PATENT NUMBER: US7086090  
HIGHEST APPLICATION PUBLICATION NUMBER: US2006168703

CA INDEXING IS CURRENT THROUGH 1 Aug 2006 (20060801/UPCA)  
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 1 Aug 2006 (20060801/PD)  
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Apr 2006  
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Apr 2006

## FILE USPAT2

FILE COVERS 2001 TO PUBLICATION DATE: 1 Aug 2006 (20060801/PD)  
FILE LAST UPDATED: 1 Aug 2006 (20060801/ED)  
HIGHEST GRANTED PATENT NUMBER: US2006123898  
HIGHEST APPLICATION PUBLICATION NUMBER: US2006167395  
CA INDEXING IS CURRENT THROUGH 1 Aug 2006 (20060801/UPCA)  
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 1 Aug 2006 (20060801/PD)  
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Apr 2006  
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Apr 2006

## FILE CHEMINFORMRX

FILE LAST UPDATED: 12 JUN 2006 <20060612/UP>

>>> CAS Registry Numbers are available for  
substances prior to 1995 <<<

## FILE LWPI

LWPI IS A STATIC LEARNING FILE

>>> PATENT DRAWINGS AVAILABLE FOR DISPLAY <<<

## FILE LREGISTRY

LREGISTRY IS A STATIC LEARNING FILE

NEW CAS INFORMATION USE POLICIES, ENTER HELP USAGETERMS FOR DETAILS.

## FILE MARPAT

FILE CONTENT: 1961-PRESENT VOL 145 ISS 5 (20060728/ED)

SOME MARPAT RECORDS ARE DERIVED FROM INPI DATA FOR 1961-1987

MOST RECENT CITATIONS FOR PATENTS FROM MAJOR ISSUING AGENCIES  
(COVERAGE TO THESE DATES IS NOT COMPLETE):

US	2006135764	22 JUN 2006
DE	102004055316	18 MAY 2006
EP	1674464	28 JUN 2006
JP	2006128031	18 MAY 2006
WO	2006058720	08 JUN 2006
GB	2419594	03 MAY 2006
FR	2877945	19 MAY 2006
RU	2276150	10 MAY 2006
CA	2518664	10 MAR 2006

Expanded G-group definition display now available.

New CAS Information Use Policies, enter HELP USAGETERMS for details.

## FILE MEDLINE

FILE LAST UPDATED: 29 Jul 2006 (20060729/UP). FILE COVERS 1950 TO DATE.

On December 11, 2005, the 2006 MeSH terms were loaded.

The MEDLINE reload for 2006 is now (26 Feb.) available. For details on the 2006 reload, enter HELP RLOAD at an arrow prompt (=>). See also:

<http://www.nlm.nih.gov/mesh/>  
[http://www.nlm.nih.gov/pubs/techbull/nd04/nd04\\_mesh.html](http://www.nlm.nih.gov/pubs/techbull/nd04/nd04_mesh.html)  
[http://www.nlm.nih.gov/pubs/techbull/nd05/nd05\\_med\\_data\\_changes.html](http://www.nlm.nih.gov/pubs/techbull/nd05/nd05_med_data_changes.html)  
[http://www.nlm.nih.gov/pubs/techbull/nd05/nd05\\_2006\\_MeSH.html](http://www.nlm.nih.gov/pubs/techbull/nd05/nd05_2006_MeSH.html)

OLDMEDLINE is covered back to 1950.

MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the MeSH 2006 vocabulary.

This file contains CAS Registry Numbers for easy and accurate substance identification.

#### FILE EMBASE

FILE COVERS 1974 TO 1 Aug 2006 (20060801/ED)

EMBASE has been reloaded. Enter HELP RLOAD for details.

EMBASE is now updated daily. SDI frequency remains weekly (default) and biweekly.

This file contains CAS Registry Numbers for easy and accurate substance identification.

#### FILE BIOSIS

FILE COVERS 1969 TO DATE.

CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 26 July 2006 (20060726/ED)

#### FILE PASCAL

FILE LAST UPDATED: 31 JUL 2006 <20060731/UP>

FILE COVERS 1977 TO DATE.

>>> SIMULTANEOUS LEFT AND RIGHT TRUNCATION IS AVAILABLE  
IN THE BASIC INDEX (/BI) FIELD <<<

#### FILE JICST-EPLUS

FILE COVERS 1985 TO 24 JUL 2006 (20060724/ED)

THE JICST-EPLUS FILE HAS BEEN RELOADED TO REFLECT THE 1999 CONTROLLED TERM (/CT) THESAURUS RELOAD.

#### FILE JAPIO

FILE LAST UPDATED: 3 APR 2006 <20060403/UP>

FILE COVERS APRIL 1973 TO DECEMBER 22, 2005

>>> GRAPHIC IMAGES AVAILABLE <<<

>>> NEW IPC8 DATA AND FUNCTIONALITY NOT YET AVAILABLE IN THIS FILE.  
USE IPC7 FORMAT FOR SEARCHING THE IPC. WATCH THIS SPACE FOR FURTHER  
DEVELOPMENTS AND SEE OUR NEWS SECTION FOR FURTHER INFORMATION  
ABOUT THE IPC REFORM <<<

FILE LIFESCI  
FILE COVERS 1978 TO 21 Jun 2006 (20060621/ED)

FILE BIOENG  
FILE LAST UPDATED: 25 JUL 2006 <20060725/UP>  
FILE COVERS 1982 TO DATE

>>> SIMULTANEOUS LEFT AND RIGHT TRUNCATION AVAILABLE IN  
THE BASIC INDEX <<<

FILE CABA  
FILE COVERS 1973 TO 10 Jul 2006 (20060710/ED)

This file contains CAS Registry Numbers for easy and accurate  
substance identification.

The CABA file was reloaded 7 December 2003. Enter HELP RLOAD for details.

FILE BIOTECHNO  
FILE LAST UPDATED: 7 JAN 2004 <20040107/UP>  
FILE COVERS 1980 TO 2003.

>>> BIOTECHNO IS NO LONGER BEING UPDATED AS OF 2004 <<<

>>> SIMULTANEOUS LEFT AND RIGHT TRUNCATION AVAILABLE IN  
/CT AND BASIC INDEX <<<

FILE BIOTECHDS  
FILE LAST UPDATED: 1 AUG 2006 <20060801/UP>  
FILE COVERS 1982 TO DATE

>>> USE OF THIS FILE IS LIMITED TO BIOTECH SUBSCRIBERS <<<

FILE DRUGU  
FILE LAST UPDATED: 1 AUG 2006 <20060801/UP>  
>>> DERWENT DRUG FILE (SUBSCRIBER) <<<

>>> FILE COVERS 1983 TO DATE <<<  
>>> THESAURUS AVAILABLE IN /CT <<<

FILE DRUGB  
>>> FILE COVERS 1964 TO 1982 - CLOSED FILE <<<

FILE VETU  
FILE LAST UPDATED: 02 JAN 2002 <20020102/UP>  
FILE COVERS 1983-2001

FILE VETB  
FILE LAST UPDATED: 25 SEP 94 <940925/UP>  
FILE COVERS 1968-1982

FILE SCISEARCH

FILE COVERS 1974 TO 27 Jul 2006 (20060727/ED)

SCISEARCH has been reloaded, see HELP RLOAD for details.

FILE CONFSCI

FILE COVERS 1973 TO 10 Jul 2006 (20060710/ED)

CSA has resumed updates, see NEWS FILE

FILE DISSABS

FILE COVERS 1861 TO 27 JUL 2006 (20060727/ED)

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